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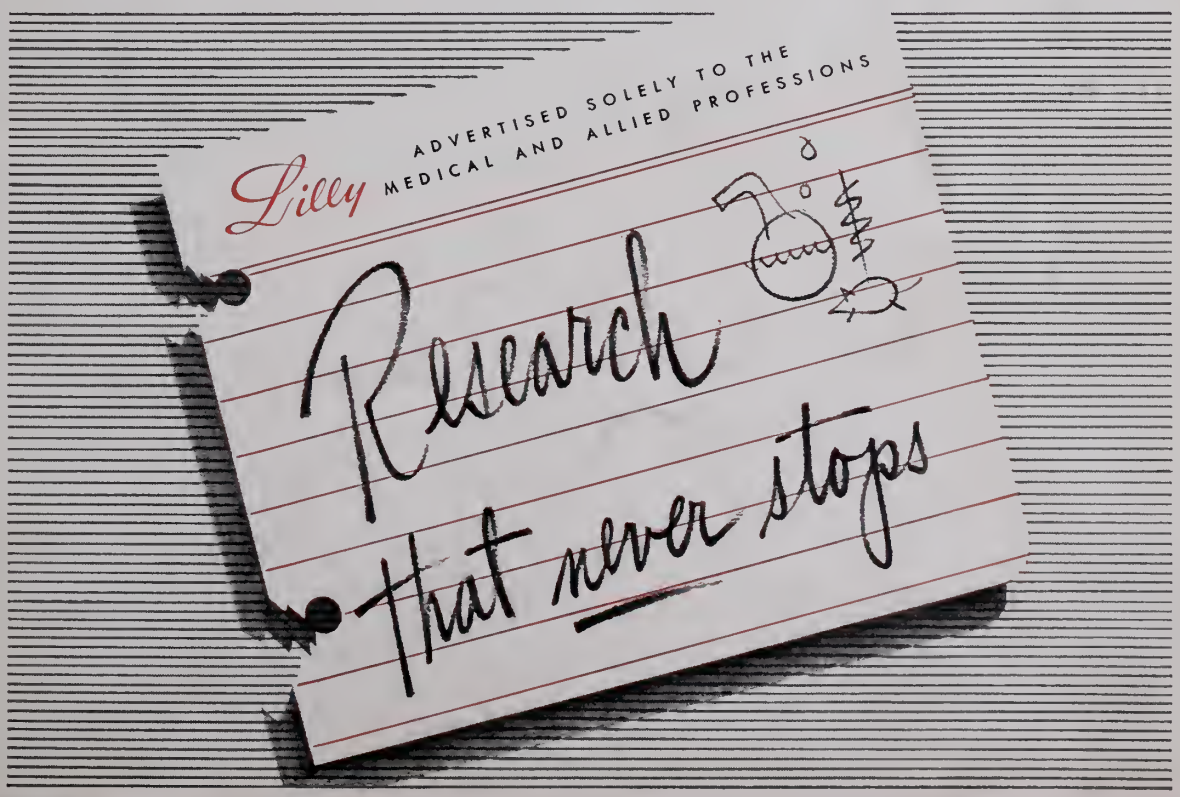
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GUEST EDITORIAL

Practicing Medical Education

FEW of us primarily occupied as medical practitioners or medical educators have not been drawn into discussions which seem to highlight the contrasts between these two vitally associated fields. One would think there is far more dividing our thinking and our actions in these two areas than uniting us in both a chronological and professional continuum.

In the medical centers of the United States over the past fifty years, the overwhelming challenge has been the changing scientific environment, reflecting the great advances of medical knowledge in this period. This has given rise to emphasis—perhaps undue—upon the exotic, the complicated, the dramatic, not merely in the accumulation of patients in medical centers but in their use in student teaching. This aspect of the problem has received widespread recognition in medical schools over the nation in the past ten years; resulting in very general use of home care programs, preceptorship plans, and the like, presenting the roles of the physician in actual practice. These are also increasingly enriched with lectures and demonstrations on the problems of opening an office, setting fees, practical medical ethics, insurance, medical-legal matters, and so on. There is still much more to be done.

But this is only one of the several aspects of an effective approach to the whole problem. As we have benefited from the introduction of some of the realities of practice into the experience of the medical student, we would do well to enrich the practice of medicine with some of the realities of medical education. It is conceivable that every physician can enjoy the practice of medical education.

Several characteristics of this experience are worthy of special note. The most important of these is the frank acknowledgment that where two or more physicians are gathered, each one knows more than any one of the others about some aspect of medical knowledge—and furthermore as physicians, we owe it to ourselves and to our patients to bring the total resources of the medical community to bear upon their problems.

Almost equally important is acknowledgment to ourselves that alertness of medical judgment is enhanced by the teaching atmosphere of frank professional discussions—and this alertness can grow dull indeed unless our daily practice is open to the view of colleagues, associates or students.

Without danger to the doctor-patient relationship, without jeopardy to the vital concept of privileged communications between the patient and his physician, the teaching atmosphere can and will develop in every medical community today, if we would begin to realize the potential of our present medical resources.

It is in the very nature of modern medical knowledge that every one of us is an incomplete physician; and that our inadequacies may prove of vital importance to any one of the patients in our care. If the experience of medical centers has any meaning at all, it is that even the ablest of us are better physicians for the fact that our observations, our reasoning and our judgments are subject to the stimulation of our colleagues all the time.

In the last analysis we are students of medicine from the first day in Anatomy until the last day of practice.

JOHN B. TRUSLOW, M.D.

EDITOR'S NOTE. Dr. Truslow is Dean of the School of Medicine of the Medical College of Virginia.

Floral Eponym

STAUNTONIA

STAUNTON, SIR GEORGE LEONARD, 1737-1801

This English physician graduated in medicine at Montpellier in 1758. He practiced medicine in the West Indies where he held several official appointments among which was member of the legislative Council and Attorney General for Grenada. In 1782 he was sent on a commission to Calcutta, returning to England in 1784. In 1787 he was elected a fellow of the Royal Society and in 1790 was made an honorary D.C.L. at Oxford. He is buried in Westminster Abbey.

Stauntonia is a small, little-known genus of Asiatic, woody vines.

EMERGENCY ROOM SURGERY AND THE PHYSICIAN IN GENERAL PRACTICE*

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Frequently surgery has been divided into two categories, major surgery and minor surgery. The implication has been that almost any physician might do minor surgery but that only the specially trained should attempt major surgery. Theoretically, such a consideration has much to recommend it, but, unfortunately, it has never been possible to draw sharp lines of distinction between what is major and what is minor. Furthermore, it is evident that what may seem to be at first glance a minor procedure may prove to be actually a major undertaking. How many handicapped or useless fingers and hands are there because what appeared to be a minor laceration masked the presence of severed tendons or nerves? How many lives have been sacrificed to the cauterization or inadequate excision of pigmented skin lesions that appeared to be benign but were really malignant; melanomas, lesions that may be more than a match for the most radically major procedure by the most highly trained and experienced surgeon!

There are many special skills that may be developed by the physician in his fight against disease and death. Surgery is only one of them. The physician in general practice must cultivate to a degree a working knowledge of most of those skills. He will need to use some because he can and at times he must. He will need to abjure others because he realizes limitations of capacity or facilities and, for the good of the patient, refers him to another physician with the special skill or facilities required. There should be no friction between such physicians. For instance, the physician trained in the special skills of surgery can have no stronger and more dependable ally than the physician in general practice who supervises the patient after operation and guides his restoration to health and usefulness in his home environment. Nor can the physician in general practice have a stronger and more dependable ally than the surgeon to whom he may turn for advice and help when needed.

However much or little surgery the physician in general practice may wish to do, he may find himself in the position of having no alternative to doing some surgery—often under circumstances that may mean the difference between the survival and the death of the patient. I refer especially to what may be called the emergency care of the injured, and so I come to the subject upon which you so kindly invited me to address you. My previous remarks may seem to have been an unnecessary digression but I think not, because I hope they may at least have called your attention to what seem to me to be very important elements of understanding and sympathy between the physician in general practice and the physician in the practice of surgery exclusively.

Emergency surgical care of the injured entails many decisions and techniques and judgments that may be hard to catalog. Experience is the indispenable teacher and nothing that can be said or written can wholly substitute for it. Since I cannot speak from the experience of general practice, I must speak from the experience of general surgical practice—for more years than I now like to brag about. The surgeon commonly sees his urgent patients in the hospital emergency room, often provided with the latest equipment and trained personnel for resuscitation, anesthesia, medication, intravenous therapy, asepsis, antisepsis and all grades of surgical procedures. The physician in general practice may have the same facilities of course but not infrequently his emergency room is in the office or home or even by the roadside. Yet the outcome, even life itself, may depend upon what he does in the course of his first ministrations to the patient.

Probably the simplest means of discussing the problem will be to amplify certain topics, namely: free respiratory exchange, hemorrhage and shock, infection, cosmetic appearance and function.

Free Respiratory Exchange:

It goes without saying that life cannot long con-

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*Read before the Second Annual Scientific Assembly of the Virginia Academy of General Practice at Roanoke, May 9th.

tinue unless respiratory exchange, the inhalation of oxygen, the exhalation of wastes takes place. Actually the physician may be too late if whoever is immediately available fails to remove mechanical impediments to respiration such as constricting clothing, crushing pressures, and foreign substances in the respiratory passages and possibly further still to commence artificial respiration. The so-called "sucking wound" of the chest must not be forgotten in considering things that may impede respiration. Prompt application of a pressure dressing will usually suffice until surgical closure can be accomplished.

When the physician arrives he should immediately make sure that free respiratory exchange can occur or else take steps to make sure that it does occur, even perform a tracheotomy if necessary. A knife alone will open the trachea and a curved hemostat will maintain patency of the opening until a tube can be procured, and so, a life may be saved.

Hemorrhage and Shock:

Among the threats to the life of the injured, however, probably the greatest are hemorrhage and shock. They are so closely related physiologically and clinically that they are practically inseparable. In a limited discussion I cannot elaborate further than to remind you that the chief factors in both are the loss of circulating blood volume with certain related abnormalities of the distribution of fluids, proteins and electrolytes in and around the tissue cells. I need hardly remind you that the first consideration involved in emergency surgical treatment, after making sure that there is no impediment to respiratory exchange, is the identification of hemorrhage and the use of measures to stop it if it exists. Much valuable time and possibly irreplaceable blood may be lost by delay incident to search for pressure points, rigging tourniquets, efforts at sepsis or antisepsis and other less urgent things. Local pressure at the site of actual bleeding is often the most effective means of controlling hemorrhage until more definitive measures can be employed. Although asepsis and antisepsis may have to defer to the urgency of stopping hemorrhage, they must not be forgotten and should be observed as scrupulously and quickly as possible. Even the homely roll of toilet tissue or the laundered handkerchief or towel, however, may pinch-hit temporarily for more conventional sterilized materials.

The general measures just referred to may be carried out at the roadside or almost anywhere and may have saved a life—though their neglect may have lost one. Having done all that can be to assure free respiratory exchange and stop blood loss, one should try to give reasonable alleviation of pain. Pain may aggravate shock, so moderate amounts of opiate may be important. Excess amounts of opiate, however, may depress respiration and induce such stupor that dangerous symptoms and signs may be masked and thus harm done. Morphine sulphate, gr. 1/4 (16 mg.) or its equivalent among the newer similar drugs may be employed with reasonable safety. If inadequate, after waiting 15 to 30 minutes for it to take effect, half the amount might be used and again a waiting period observed before giving more.

Finally, the patient must be transported carefully, preferably by ambulance, to a place where adequate facilities are available for diagnosing the seriousness of his condition and for rendering more definitive treatment. Adequate facilities may be available in a well equipped office but frequently a hospital must be sought.

In reference to the diagnosis of the seriousness of the patient's condition, it is extremely important that diagnostic measures be restricted to those which will not add to the seriousness of his condition. X-ray examinations, for instance, may, by moving a patient about, increase shock, re-establish hemorrhage, cause brain or cord damage and exert many other harmful influences. Frequently careful clinical observation will adduce equally positive information and with infinitely greater ease and less risk, not to mention expense. Fairly frequent observations of the rate and character of the pulse and respiration, the blood pressure, the condition and color of the skin, the state of consciousness and others equally simple suffice at first. Later it may be important to know about the body temperature, the blood picture, the blood volume and its chemistry and other observations that indicate improvement or deterioration.

In reference to rendering more definitive treatment, it is important to remember that just as over-enthusiastic diagnostic measures may be harmful, so ill-advised treatment may be even more harmful Often, the best treatment for a time may be no treatment other than rest and cautious sedation.

Noise, bustle, prolonged venipuncture, blood pressure determination every few minutes, multiple examinations, shifting positions for x-rays and many other things may do great harm. A quiet room, reasonably subdued light, a comfortably padded table or a bed, permitting the patient to assume the position most comfortable to him and minimal numbers of disturbing stimuli may greatly hasten recovery from shock and restoration to good condition. Inhalation of oxygen, administration of appropriate drugs and intravenous solutions and transfusions of plasma or blood may be important. Occasionally, of course, operative procedures may be necessary but if conditions dictate such the operation may be best deferred, for hours or even for days, as in the case of some orthopedic procedures.

Infection:

I have already referred to the fact that while every effort should be made to guard against infection, nevertheless insuring unhampered respiration and combating hemorrhage and shock may have to be given precedence over measures to minimize the threat of infection. As soon as possible, however, aseptic and antiseptic techniques must be employed. The first consideration is to prevent further contamination; covering wounds with sterile or as nearly sterile as possible materials. Applications of so-called antiseptic solutions, powders, and ointments to open wounds should be avoided. Careful cleansing by washing and irrigation is greatly preferable. Accurate cutting away of fragments of dead tissue and removal of foreign material and the application of dressings kept moist by normal sodium chloride solution and warm by properly conserved body heat may be potent local measures. The antibiotics and antitoxins constitute powerful systemic aids. Patients with severe wounds may wisely be given penicillin, possibly other specific antibiotics if indicated, and in appropriate instances antitoxin against tetanus and gas gangrene. Any wound which may provide anaerobic conditions and any grossly contaminated wound necessitate the use of tetanus antitoxin. A patient previously immunized by tetanus toxoid should at least be given a so-called "booster dose" of the toxoid. A seemingly insignificant nail or splinter wound may provide ideal soil for growth of anaerobic organisms. Although tetanus antitoxin may be an unnecessary precaution in all wounds and gas gangrene antitoxin is probably not indicated except in extensive or badly traumatized wounds, nevertheless judgment of the risk is fallible and when in doubt antitoxins and special antibiotics should be employed.

In detail, the emergency room treatment of the average patient with a wound might well be as follows: Clothing should be removed, cut away if necessary. Sedation should be supplemented if necessary, as already suggested. Anesthesia must be chosen appropriate to the necessities involved. Local anesthesia with procaine by field block, nerve block, or subarachnoid segmental block are often best. The last may best be avoided after severe hemorrhage or in marked shock. Intravenous anesthesia (sodium pentothal, etc.) and inhalation anesthesia may offer greater risk but may be necessary. Choice of the anesthetic agent had probably best be based largely on the experience of the anesthetist. Practically all traumatic wounds are contaminated, and, of course, some are grossly soiled. Therefore, wounds and adjacent areas should be washed with soap and sterile water and irrigated with a physiologic solution of sodium chloride, the vigor of the cleansing depending upon the tissue involved and the degree of soiling. It is my belief that all antiseptic solutions should probably be avoided. The area should be draped, local infiltration anesthesia injected if to be employed, and dead tissue cut away with the utmost care. Remaining dead tissue will promote infection. Sacrifice of viable tissue may greatly complicate the repair and utterly compromise the cosmetic result or function.

The surgical repair of a wound may be simple or extremely complicated and difficult. Skin, subcutaneous tissue and muscle seldom present great problems. Serious problems, however, often attend associated wounds of bones, tendons, nerves or viscera. In such cases, the services of a physician trained in those special skills should be sought, namely the orthopedic surgeon, the neurosurgeon, the general surgeon and so forth, depending upon the particular injury. Fractured bones must be set and supported, severed tendons and nerves must be quickly recognized and accurately repaired. Whatever is injured must be restored as well as possible. Dead space should be obliterated and complete hemostasis secured.

Although many surgeons differ, I prefer not to bury unabsorbable material in contaminated, potentially infected wounds. Many recommend silk, cotton, stainless steel and other similar sutures, but I prefer catgut in most instances. If infection supervenes, non-absorbable ligatures and sutures may cause stubborn sinuses, drainage, and so forth. Catgut may theoretically enhance infection for a short time but after a few days it disappears and unhampered healing occurs. Plain or chromicized catgut in the smaller sizes, triple O, double O, single O and rarely No. 1 offer an adequate choice depending upon the strength needed. Interrupted sutures are best and all should be tied no tighter than necessary to lightly approximate the tissue, muscle or subcutaneous tissue.

Skin sutures of non-absorbable material seem to find almost universal acceptance. Silk, cotton, and monofilament synthetics ("Dermal'—D&G) in small sizes seem almost equally satisfactory. The monofilament suture with needle attached, in a sterile tube like catgut is invaluable. For best approximation the distance between sutures should be the same as the distance from suture to skin margin. The thinner the skin the smaller that distance must be. Many prefer interrupted sutures but I often choose the continuous suture. No suture should be tight enough to blanch the skin. Firm dressings offer helpful support of the wound though too tight dressings may be harmful. Skin sutures may sometimes be removed in a day or two if under no tension. The sooner they are removed the less chance there is for a cross-hatched scar.

In passing, it should be mentioned that metal clips may be quite useful in skin closure and also that narrow strips of ordinary surgical adhesive tape may approximate skin edges nicely. Adhesive strips may also be used to supplement skin sutures and it will be noted that the best healing often occurs beneath the adhesive stripped areas.

Cosmetic Appearance and Function:

The last two of the five topics chosen for elaboration may well be discussed together for both are intimately concerned with the conservation and the repair of remaining viable tissue. Both frequently entail considerable knowledge, experience, technical procedure, and judgment. Even as a physician in surgical practice exclusively, I refer, whenever possible, wounds that present real problems in cosmetics to surgeons especially skilled in plastic surgery. The initial repair of facial wounds and others that may result in disfigurement determines in large measure the final cosmetic result. Even multiple subsequent operations, often time consuming, disabling and costly, may not compensate for ill-advised or poorly executed initial wound repair. In addition to cosmetic disfigurement, serious loss of function also may ensue. Severed tendons and nerves are easily overlooked and in severely injured patients may not come to light for a long time—too late sometimes for restoration of good function to the part.

And so I believe that every physician, whether in general practice or in the practice of surgery, whether in general surgery or a particular branch of surgery, and whether in surgery exclusively or not should examine himself and attempt to objectively evaluate himself and his training, his capabilities and his facilities, and so determine within his own conscience what practice he may safely do. In the words of the Oath of Hippocrates, "I will not use the knife, not even, verily, on sufferers from stone, but I will give place to such as are craftsmen therein."

SURGICAL TREATMENT OF PEPTIC ULCER*

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In discussing the surgical treatment of peptic ulcer it is important to emphasize at the outset that this treatment is not a substitute for medical treatment. In no instance, if we are to institute proper therapy, are we allowed a choice. One or the other is always indicated. Surgical therapy should be considered only under the following conditions: First, when medical therapy has been given a thorough trial and had failed; secondly, where it is obvious that medical treatment would be of no avail; and, thirdly, where medical treatment would entail greater risk to the patient's life than surgical treatment.

To apply these broad criteria to peptic ulcer it is first necessary to consider its two main divisions, gastric and duodenal.

Gastric Ulcer

Gastric ulcer is distinguished from duodenal ulcer anatomically by its location, but therapeutically it is distinguished by the fact that it is frequently malignant, while duodenal ulcer is only rarely, if ever so. This is an extremely important point and deserves careful consideration, since in this instance we have to determine which type of treatment gives the patient a better chance of survival. Unfortunately, there is no means by which we can determine preoperatively whether a gastric lesion is benign or malignant. The so-called "trial of conservative treatment" is really no trial at all, since roentgenologists emphasize that a malignant gastric ulceration may seem to disappear on medical treatment only to re-appear later as a space occupying gastric carcinoma.

Walters, Gray and Priestly[1], in reviewing a series of patients who had resectable carcinomatous lesions of the stomach, report that one-third suffered from the so-called ulcer type of dyspepsia and four-fifths experienced temporary symptomatic relief on medical treatment. This uncertainty is not resolved by gastroscopic examination or by any other laboratory or clinical means available.

Achlorhydria associated with a gastric ulcer makes the possibility of malignancy much greater, but we must remember that achlorhydria is present in only 50% of the cases of gastric cancer. Allen[2] found the same incidence of achlorhydria in the cases with benign gastric ulcer as in those which proved to be malignant. These same findings were obtained by Kiernan[3].

All authorities agree that the only one who can say that a gastric ulcer is benign is the pathologist who examines it microscopically. The physician, then, who undertakes to advise treatment for a gastric ulcer is dealing with a lesion which may or may not be malignant. It would seem that his first concern would be to determine which treatment involved less risk to the patient's life. Is the risk of a medically treated gastric ulcer being malignant greater than the risk of a gastric resection?

Lahey[4] in 1948 stated that in his experience 10% of patients who are treated for gastric ulcer turn out to have malignant disease. Walters[5] states that 20% of the patients who are reported to have gastric ulcer on roentgenographic examination are found on operation to have malignant ulcers. Kiernan[6] states that 10% of gastric ulcers believed to be benign on x-ray examination will be found to be malignant. This same author reported that the lowest incidence of malignancy of ulcers anywhere in the stomach was 11%. This was along the lesser curvature. The highest was along the greater curvature; this was 96%. Allen and Welch[7] reported that 14% of the patients treated for benign gastric ulcer at the Massachusetts General Hospital over a ten year period proved to have cancer. In Allen's[2] series 20% of the ulcers on the anterior or posterior wall proved to be malignant. Holmes and Hampton[8] have shown that gastric ulcers located in an area two centimeters proximal to the pylorus are prone to be malignant, regardless of size.

How does this risk which is assumed by the average patient with a gastric ulcer who is treated medically compare to the risk of a patient undergoing surgical treatment? The mortality of gastric resection, which is the surgical procedure most frequently employed in the definitive treatment of gastric ulcer,

*Read before the 56th annual meeting of the Seaboard Medical Society of Virginia and North Carolina, Virginia Beach, Virginia, December 4-6, 1951.

has decreased markedly in the last decade. Throughout the country in large and small hospitals, in competent hands, it probably does not exceed two or three per cent. Many reports in the literature over the past few years (Table I) have been much lower than this.

TABLE I

MORTALITY OF GASTRECTOMY IN VARIOUS SERIES

Authors	Year	No. Cases	Mortality
Nicolaysen & Fretheim	1951	280	.35
Glenn & Harrison	1951	309	1.9
Garlock	1949	187	.5
Colp et al	1948	100	0
St. John et al	1949	394	2.
Steinberg	1947	373	.8
Bradshaw & Hightower	1947	53	1.9
Kennedy & Reynolds	1946	90	0
King	1946	75	0
Mitler & Nicholson	1946	113	.9
Allen & Welch	1946	195	2.0

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These facts have resulted in the development of two schools of thought regarding the treatment of gastric ulcer. The first group believes that since the incidence of carcinoma is so much higher than the risk of surgical removal of the ulcer, all gastric ulcers without exception should be treated surgically. This is a sound view and one with which it is hard to find fault. If put into universal practice, it would most certainly bring many early carcinomas of the stomach to surgery at a time when they are most susceptible to cure. Others believe that in a young individual most gastric ulcers may safely be given a trial of conservative treatment. By this is meant two to three weeks of medical therapy under close supervision. If at the end of this time, the symptoms have subsided, occult blood in the stomach aspirations has disappeared and if the ulceration has either gotten much smaller or disappeared on x-ray visualization, this group believes that these patients may be safely treated medically under continued close observation as long as healing progresses and the patient remains asymptomatic. Most of these men will agree that patients over forty with chronic recurring gastric ulcers should be operated upon, as should all those with ulcers on the greater curvature and all those with ulcers over 1.5 centimeters in diameter.

In considering these opinions it is important to remember that the doctor who undertakes to give a gastric ulcer a trial of medical treatment is assuming a grave responsibility and has a most serious obligation to explain the possibilities to the patient and to make sure that the follow-up observation is as thorough as possible.

The following case is presented to show how difficult it may be to distinguish between a gastric ulcer and a malignant lesion.

Case I. This patient was a 72 year old male who had been suffering from indigestion for 30 years. For several years before examination he had been suffering from definite epigastric distress. For a few weeks before examination his indigestion and epigastric pain had become more severe and he had been troubled by nausea and occasional vomiting.

Upper gastro-intestinal x-ray studies were done on May 22, 1951 (Figure I). At this time a prepyloric gastric ulcer was visible and there was some narrowing and stiffening of the pyloric area. The diagnosis was prepyloric gastric ulcer. It was felt that carcinoma could not be excluded, but in view of the patient's age and poor physical condition and especially in view of the long history of dyspepsia, it

was decided to give him a three to four weeks trial of medical treatment.

On June 12, 1951, three weeks later, repeat upper gastrointestinal x-ray studies were made (Figure II). During this interval on intensive medical treatment, he stated that he felt better. His epigastric distress had cleared up and his only complaints were nausea and occasional vomiting. The films showed that the ulcer which was seen previously had disappeared. This time, however, the pyloric end of the stomach, in addition to being somewhat narrowed, appeared irregular and mottled. This picture was considered very suggestive of carcinoma. Operation was decided upon, the patient was hospitalized, and after three days of preparation, gastrectomy was performed. At operation the specimen showed a deep crater form ulcer surrounded by a tumor about three to four centimeters in diameter which was composed of hard, white, granular tissue. Pathological diagnosis was adenocarcinoma. This patient died on the tenth post-operative day.



Fig. 1.—Roentgenogram showing prepyloric ulcer which proved to be part of a malignant lesion.

Discussion: This case illustrates the difficult decisions which often have to be made in the treatment of these patients. The main deterrent to surgery here was this man's poor physical condition. It was felt that he was a very poor risk to any type of surgery and that every effort should be made to avoid operation. The history of indigestion of thirty years duration and definite ulcer symptoms, including epigastric pain for several years, pointed strongly against the probability of malignancy. Here also we see that symptomatic relief and the disapperance of the ulcer under medical management do not necessarily rule out the possibility of malignancy.



Fig. 2.—Follow-up film three weeks later, showing disappearance of malignant ulcer.

Choice of Operation in Gastric Ulcer

Gastric resection is the operation of choice in the treatment of gastric ulcer. This procedure properly performed, with the removal of at least three-fourths of the lower end of the stomach, results in removal of the ulcer, usually with a wide margin of normal tissue. The acid secretion is markedly diminished because of the removal of the antrum, which is the site of production of the hormone "gastrin" and because of the removal of a large portion of the parietal cells. A properly performed gastric resection will result in a minimal number of jejunal ulcers and the percentage of satisfactory results has been uniformly high.

Gaviser[9], reporting on Wangenstein's patients, found excellent results in 76%, satisfactory results in 21%, and poor results in 2.7%. Welch and Allen[7] found that 75% of their cases became asymptomatic after gastric resection, 15% continued to have trivial complaints which were readily controlled by diet, and 10% required medical attention for relief. Walters

and Clagett[10] reported one poor result in a series of 162 cases.

The type of gastrectomy most frequently performed is the Polya procedure, or the Hofmeister modification of this procedure. The anastomosis may be placed anterior or posterior to the transverse colon. Our personal preference is for the posterior Polya procedure because this makes possible the use of a shorter afferent loop. Experimentally, the resistance of the jejunal mucosa to gastric contents has been shown to increase as we approach the duodenum; hence a short afferent loop should decrease the incidence of jejunal ulcer.

We believe that it is important to avoid the use of crushing clamps in performing the anastomosis. The widespread employment of these clamps does not change the fact that their use violates fundamental surgical principles. If an open anastomosis is performed without crushing or traumatizing the tissues, accurate approximation and thorough hemostasis can be obtained; the incidence of post-operative edema of the stoma and post-operative hemorrhage will be markedly reduced and the need for post-operative gastric suction will be the exception rather than the rule. These patients are usually able to take small amounts of water by mouth on the first post-operative day and start taking a bland diet on the second or third post-operative day.

Gastro-enterostomy is not satisfactory in the treatment of gastric ulcer because it does not result in the removal of the lesion which may be malignant, because the reduction in the acid content of the stomach is not nearly as marked or as permanent as with gastric resection and because it is followed by a much higher percentage of jejunal ulcer than is gastric resection.

Vagotomy alone is not applicable because the potentially malignant lesion is not removed and because of the high incidence of recurrence and the possibility of the development of delayed gastric emptying. Vagotomy in association with gastro-enterostomy relieves the possibility of delayed emptying but does not take care of the other reasons for not employing this procedure in the treatment of gastric ulcer.

DUODENAL ULCER

In considering the surgical treatment of duodenal ulcer, the picture is completely different. Here the question of malignancy is not a factor and surgery should be employed only after medical therapy has failed. Approximately 85% of duodenal ulcers respond satisfactorily to medical therapy[11]. The performance of a gastric resection for the treatment of a duodenal ulcer is more hazardous than for gastric ulcer. This is due to the difficulty often experienced in freeing a sufficient segment to effect a safe closure of the duodenal stump. The cases of duodenal ulcer which do not achieve the desired results under medical therapy and have to be treated surgically are those which develop intractable pain, hemorrhage, obstruction or perforation.

Intractable Pain. If a patient who has had prolonged active treatment of a duodenal ulcer has continuous intractable pain which interferes with his ordinary activities, surgical treatment is recommended. In this case we are dealing with a condition where medical treatment has been of no avail and another approach must be employed if we are to have any chance of improving an intolerable situation. The following case report presents an instance where surgical therapy was employed in the treatment of a duodenal ulcer because of intractable pain in a patient who would ordinarily not be a good candidate for surgical treatment.

Case 2. This twenty-three year old girl had a long history of duodenal ulcer which had been diagnosed by roentgenologic examination. For two years before referral she had suffered severe epigastric pain which did not respond to intensive medical therapy. She was unable to deviate from a Sippy #1 diet without severe exacerbations. Her symptoms were becoming steadily more severe; periods of complete rest resulted in partial alleviation, but pain recurred as soon as she returned to work or deviated from her Sippy #1 diet. This patient worked as a telegraph operator and had no independent means of support. It was clear that unless something further could be done she would become a complete invalid with little hope of further improvement. Surgical therapy was decided upon. The patient was brought into the hospital, prepared for surgery and a gastrectomy was performed, about 80% of the stomach being removed. Her post-operative course was uneventful and she was discharged from the hospital on a bland diet on the tenth post-operative day. She returned to work and, although only 18 months have elapsed thus far, she has not had any further trouble.

Discussion: This patient illustrates the fact that at times surgical therapy may have to be employed under unfavorable circumstances because it is the only recourse left. No one likes to perform a gastrectomy on a patient this age, but at times it may be necessary. When performed, the operation should be radical, a somewhat larger portion of the stomach being removed than usual. Care should also be taken to make the afferent loop as short as feasible. A gastrectomy in a twenty-three year old patient has to last a long time, and will have a correspondingly greater opportunity to develop a marginal ulcer. Every possible effort should be taken at the time of surgery to prevent this from occurring.

Hemorrhage: The problem of severe bleeding from peptic ulcer is probably the most controversial of all, but the great majority of authorities today will admit that there are certain cases whose lives will be saved by surgical intervention if this is employed at the correct time. The results of Meulengracht[12], the foremost advocate of exclusively conservative treatment, who reported a mortality of one per cent, have not been duplicated. In analyzing his cases, Holman[13] found that most of his fatalities occurred in two types of patients: (1) those who continued to bleed for twenty-four to forty-eight hours after they had been placed on a medical regime, and (2) those who started to bleed while in the hospital under medical treatment for a previously uncomplicated ulcer. Under conservative treatment the mortality in these two groups was over fifty per cent. It is a well known fact that the average age of the patients who terminate fatally under conservative treatment is higher than those who do not. The above author by submitting all patients in these two groups to emergency surgery was able to reduce a mortality of 50% to five per cent. The findings of other authors both here and abroad are pretty much in agreement that a bleeding peptic ulcer which does not respond to medical treatment within twenty-four to forty-eight hours after admission to the hospital and any peptic ulcer which develops hemorrhage while under medical treatment in the hospital and continues to bleed, has a better chance to survive under proper surgical treatment.

The influence of age is an important one here and in patients over forty-five one should be much more prone to institute early surgical treatment for two reasons: First, an elderly patient is much less able to withstand the onslaughts of repeated hemorrhage, and, secondly, the hemorrhage occurring in the sclerotic vessels located in the fibrotic ulcer bed of the patient over forty-five is much less likely to stop spontaneously than is the hemorrhage occurring from the soft walled vessel in the active ulcer bed of the younger individual.

For the above reasons also, once the immediate danger from hemorrhage is passed, we believe that any patient who is over fifty years of age and has survived one serious hemorrhage should be operated upon. We also believe that a patient of any age who has survived two serious hemorrhages should be submitted to surgery. In these cases the patient may be well prepared for an elective operation and the risk involved in surgical therapy is less than the risk of a subequent fatal hemorrhage.

The following brief case report illustrates the surgical treatment of a typical bleeding duodenal ulcer and some unusual post-operative complications.

Case 3: This 34 year old colored male was sent into the hospital because of severe hematemesis and melena of two days duration. He gave a history of ulcer symptoms extending back five years and had had two previous episodes of severe hemorrhage. Duodenal ulcer had been diagnosed by x-ray after the first attack.

He was in fairly good condition on admission, his blood pressure being 90/65 and his red blood count 3,230,000 with 53% hemoglobin. He continued to bleed severely for the first two hospital days so that his red blood count dropped to 1,870,000 with 28% hemoglobin. During this time he was treated conservatively with sedation, antacids and a bland diet. After the second hospital day signs of hemorrhage disappeared and his condition improved steadily. Transfusions sufficient to bring his blood picture back to normal were given and upper gastro-intestinal x-ray studies were made. These showed a duodenal ulcer. Because of the history of three episodes of severe gastric hemorrhage surgical therapy was advised.

At operation an ulcer of the posterior wall of the distal portion of the first part of the duodenum was found. It was densely adherent to the surface of the pancreas. The duodenum was divided and the duodenal stump was closed, leaving the ulcer undisturbed. A gastrectomy was then performed. This patient did unusually well. He was up and about

and taking fluids well on the first post-operative day and was able to take a bland diet on the second. He remained quite active and at his own insistence was discharged on a bland diet on the fifth day after operation. The original plan was to have him come back on the tenth post-operative day to have his sutures removed, but due to a misunderstanding these were removed by the nurse before he left the hospital. He remained on his bland diet for the first 24 hours at home, but on the morning of the second day he ate an orange. Shortly after this he became nauseated and vomited a large amount of blood. This was followed by continued severe retching and the patient eviscerated. He was sent back to the hospital where immediate closure of the evisceration was performed. The post-operative course once more was uneventful. He had one tarry stool the first post-operative day and none thereafter. He was started on a Sippy #1 diet on the second post-operative day and gradually worked up to a bland diet on which he was discharged. One year has elapsed thus far without any further complications.

Discussion: This case is presented because of its unusual aspects. It is an illustration of the fact that though ulcers located in the second part or the distal portion of the first part of the duodenum may usually be safely left undisturbed at the time of surgery, if hemorrhage is a factor every effort should be made to avoid irritating the ulcer post-operatively until it has had a chance to heal. Even in the presence of hemorrhage we believe that more lives will be saved by not removing ulcers in these locations. This is especially true when, as is often the case, they are firmly fixed to the surface of the pancreas.

Obstruction: When a patient with a duodenal ulcer develops pyloric obstruction which cannot be relieved by medical means, some type of surgical relief must be sought. These patients may or may not be previously diagnosed and already receiving medical therapy. In either case it is important to remember that here, in contra-distinction to some of the other conditions mentioned, there is no need for haste. A patient with complete pyloric obstruction due to duodenal ulcer may be cared for in the hospital under medical management consisting of antispasmodics, constant gastric suction and properly selected parenteral fluids, protein and blood for sufficient time to determine definitely whether or not the obstruction will clear up after edema and spasm have been eliminated. Four or five days should be long enough to determine this and on occasions one may be surprised to see an obstruction clear up to the point where surgery is no longer necessary.

Case 4: This 46 year old married woman was first admitted to the hospital because of upper abdominal pain, nausea and vomiting. X-ray studies done before admission had revealed an enormously dilated stomach (Figure III). There were occa-



Fig. 3.— Roentgenogram showing dilated stomach due to duodenal ulcer which cleared up on conservative treatment.

sional rushes of vigorous peristaltic activity but for the most part peristalsis was entirely absent. There was complete retention on the five hour films. This obstruction was assumed to be due to an old duodenal ulcer with cicatricial contraction. She was put on constant gastric suction, parenteral fluids and antispasmodics and, as symptoms of obstruction subsided, she was placed on liquids by mouth and gradually worked up to a Sippy #3 diet. She was discharged on the 15th hospital day without any symptoms of obstruction. X-ray studies 18 days after the original ones showed no gastric dilatation. There was moderate pylorospasm but no evidence of obstruction.

This patient continued to do well and two other x-ray studies taken during the following year did

not reveal any evidence of obstruction. A little less than two years from the time of the previous admission she had a recurrence of nausea and this was followed by vomiting. X-ray studies showed a huge dilated stomach and complete pyloric obstruction. She was rehospitalized and placed on the same regime described above. This time even though symptomatic improvement was obtained, surgery was advised because it was felt that another recurrence was likely. After three days of preparation, gastrectomy was performed.

At operation the stomach, although still dilated, appeared much smaller than on the last x-ray examination. This patient's post-operative convalescence was uneventful. She was allowed small amounts of water on the first post-operative day and was given



Fig. 4.—Recurrence of same pyloric obstruction two years later.

a bland diet on the second. She was discharged from the hospital on a regular diet on the 12th post-operative day. She has been followed for a little over a year now and has had no further difficulty.

Discussion: This case illustrates how even a very serious case of pyloric obstruction due to ulcer may clear up under medical management. Even when surgery is decided upon beforehand, these patients benefit from a preliminary course of three or four days of gastric decompression. For the most part pyloric obstruction due to cicatricial contraction about an old duodenal ulcer in a young or middle aged person is almost certain to recur even if it does respond temporarily to medical treatment. In an elderly individual this is less likely to be the case.

Perforation. Perforation which may occur in a gastric or duodenal ulcer is mentioned here because the great majority of perforated ulcers are duodenal and are usually located on the anterior wall of that structure. Baritell[14], on the basis of his statistics, concludes that there are 35 patients who develop a perforated ulcer per 100,000 population per year and there are five perforated ulcers for every 1000 hospital admissions. Males out-number females by at least 10 to 1, the perforation usually takes place after forty and, while peptic ulcers may perforate without any previous symptoms, about 75% will give a history if carefully questioned[15].

Medical treatment consisting of constant gastric suction, antibiotics and morphine has been recommended by some as the treatment of choice. The great majority of authorities, however, favor surgical therapy simply because it is a more logical approach and because in signficant series the results are far superior.

Choice of Operation in Duodenal Ulcer

In all cases of duodenal ulcer except those being treated for perforation, the most frequently employed operation is gastric resection. This procedure, according to the report of Gaviser[9], achieved an excellent or good result in 82% and a satisfactory result in 15% of 231 duodenal ulcers. Walters and his associates[16], in a study of 197 patients with duodenal ulcer, found that 83.5% were well without any limitation, and that 14% were well on a dietary regime after gastric resection. Miller[17], reporting on 230 patients with duodenal ulcer, found that 90% were cured and 10% were improved after gastrectomy.

Gastric resection, as mentioned above, is a more formidable and hazardous procedure when performed for duodenal than for gastric ulcer, due to the difficulty entailed in obtaining sufficient tissue to perform a safe closure of the duodenal stump. One of the most effective means of remedying this difficulty when it is encountered is to divide the stomach just proximal to the pylorus and remove all the mucosa of the antrum. In this manner sufficient tissue is saved to effect a sound closure and the beneficial

effect of the operation on gastric acidity will not be interfered with. Equally good results may be expected after this procedure and after operations where the entire pylorus is removed[9].

Another method of dealing with this situation is the technique of exclusion. In using this technique the duodenum is divided, the ulcer is left undisturbed and the duodenal stump is then carefully closed in layers and turned down over the ulcer base.

Adherent ulcers located in the region of the ampulla of Vater present another technical problem, which is best solved by leaving the ulcer undisturbed and performing an adequate gastric resection The great weight of reported evidence seems to indicate that this is a safe procedure which does not influence the post-operative result.

Partial gastrectomy is recommended as the treatment of choice in duodenal ulcer because it is a tried and proven procedure which has been used over a long enough period of time to definitely establish its effectiveness. Where the procedure has been properly indicated and properly performed the results have been good and the complications few. According to all statistics presently available, these results are superior to those obtained with any other single surgical procedure.

Complete vagus resection produces an inhibition of all of the cephalic and much of the inter-digestive phase of gastric motor and secretory activity. It reduces the motility of the stomach and prolongs the emptying time. In general, the immediate results are striking in patients with duodenal ulcer. Pain disappears and most lesions heal promptly. Short term follow-up studies indicate that recurrences are infrequent in spite of the tendency for the stomach to become activated. Reports of longer studies, however, are beginning to appear that indicate that the beneficial results are of temporary duration. Even the most ardent advocates of the operation no longer recommend its performance for duodenal ulcer without it being accompanied by a gastric drainage procedure such as gastro-enterostomy. This has been done in an effort to prevent the high incidence of post-operative complications, chiefly gastric retention but also diarrhea and intermittent abdominal colic. We must all admit that sufficient time has not yet elapsed to determine whether vagus resection will prevent the high incidence of jejunal ulcers which followed the routine use of gastro-enterostomy in the treatment of duodenal ulcer in years gone by.

We believe that vagus resection has no place in the routine treatment of duodenal ulcer at the present time. We have no quarrel with those who combine this procedure with gastric resection in the treatment of either gastric or duodenal ulcer or both, but we have not been convinced that the possible improvement which may be obtained justifies this addition to a procedure which is already producing highly satisfactory results. The forte of vagus resection is in the treatment of marginal or jejunal ulcers which occur as a complication of gastrectomy. Here the results obtained with this procedure have been superior to those obtained with any other. Indeed, no other surgical procedure has much to offer in the treatment of a marginal ulcer which occurs after an adequate gastrectomy has been performed. In regard to the marginal ulcer which develops after an inadequate gastrectomy, we believe that, if the patient's condition permits, this should be treated by an adequate gastrectomy, probably accompanied by vagotomy. If the patient's condition does not make an adequate gastrectomy seem feasible, vagotomy alone is the procedure of choice.

Gastro-enterostomy is a procedure which was formerly very popular in the treatment of peptic ulcer and at one time was performed much more frequently than gastric resection. It will decrease the emptying time of the stomach and short circuit an obstructed pylorus. It permits partial neutralization of gastric acids by the alkaline duodenal juices but the reduction in the acid secretory response to histamine is slight[19]. The procedure fails to remove the ulcer bearing area and long term studies have revealed that it is followed by a high incidence of marginal ulcer[20]. This latter difficulty has led to its fall from grace and at present it is recommended only for those cases of pyloric obstruction whose physical condition makes them poor risks for a gastrectomy.

As regards the choice of operation for perforation of a peptic ulcer, there is general agreement that closure of the opening by the simplest method available is the procedure of choice. This can usually be done by placing two or three Lembert sutures across the hole and covering this with piece of omentum. No other surgery is indicated unless it

is absolutely necessary at the time. If there is complete or almost complete pyloric obstruction, a gastro-enterostomy is justifiable, but if this is not absolutely necessary it should be postponed to a later date. A patient with a perforated peptic ulcer is in a precarious position at best. He is undergoing a procedure which already entails a much higher risk than does an elective gastrectomy. This risk should not be magnified by the addition of any surgery which may be postponed until a later date.

Summary

Surgical treatment should be employed in the therapy of peptic ulcer only after medical treatment has been given a thorough trial and has failed, or where it is obvious that medical treatment would be of no avail, or where medical treatment would entail greater risk to the patient's life than surgical treatment.

In gastric ulcer the chance of the ulcer being malignant is much higher than the mortality of gastric resection and surgery is usually indicated. Medical treatment under the above circumstances requires constant continued supervision and periodic x-rays. In duodenal ulcer malignancy is not a factor and surgery need be employed only in the case of intractable pain, hemorrhage, obstruction, or perforation. Intractable pain which persists after thorough prolonged medical treatment is an indication that medical treatment has failed. Cases of hemorrhage who continue to bleed after forty-eight hours of medical treatment and those who begin to bleed while under medical treatment in the hospital will have a better chance of survival if surgical treatment is employed. The same is true in a patient who has survived two serious hemorrhages or in a patient over fifty who has survived one.

Cases of obstruction which do not respond to medical treatment must be treated surgically.

The choice of operation in the great majority of peptic ulcers undergoing surgery is gastric resection. We believe that vagotomy should be reserved for marginal ulcers occurring after the performance of an adequate gastrectomy and for certain poor risk cases of pyloric obstruction where it should be employed in combination with a gastro-enterostomy.

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THE RELATIONSHIP OF THYROID NODULES TO CARCINOMA*

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Energetic efforts on the part of the American Cancer Society and other public agencies have emphasized in the eyes of the laity the prevalence of malignant diseases. One facet of the many-sided program to prevent deaths from cancer has been to point out to the medical profession various types of pre-cancerous lesions which can be properly dealt with before the development of frank malignancy. Ever-increasing public awareness and dread of cancer make it mandatory that we as doctors recognize such pre-malignant conditions and advise proper treatment. Among common symptoms for which anxious patients consult us on account of the possibility of having cancer, the presence of an abnormal lump or mass is perhaps the most frightening. The physician's responsibility, then, is to separate malignant tumors from benign, and, furthermore, to divide benign into potential cancers and innocent growths.

Abnormal masses in the thyroid gland should be easily seen or felt before they have reached an advanced state, and therefore patients with such conditions are usually seen by a doctor relatively early in the course of the disease. The problem with thyroid enlargements or growths is to determine early which ones should be removed and which ones can safely be kept under observation. It is beyond the scope of this paper to outline the treatment of obvious carcinoma of the thyroid, and the discussion will be confined to an analysis of the relationship of thyroid nodules to cancer.

At the outset, it should be pointed out that the incidence of thyroid carcinoma is so low that vital statistics rate the thyroid sixteenth in the list of organs affected by malignant disease. Nevertheless the disease assumes more importance when we consider how unamenable to treatment thyroid malignancies often are after they have become well established.

The likelihood of development of fatal carcinoma of the thyroid has been minimized in recent reports concerning vital statistics. Vander Laan reviewed the records of the Boston City Hospital over a 50 year period and found in 18,668 autopsies only 5 cases where death was due to cancer of the thyroid gland. Williams and his group found that in 544,-918 admissions to the Boston City, Johns Hopkins, and Massachusetts General Hospitals, there were 3,221 patients with goiters and only 64 cases of thyroid cancers. Also, at Michael Reese Hospital, in 5,558 autopsies performed in an 18 year period, only 6 persons died of carcinoma of the thyroid.

With such a low incidence at the autopsy table, why, then, does thyroid cancer assume a position of importance? The obvious answer to this is that the majority of people dying of this disease succumb at home, do not come to autopsy, and thus are not included in these statistics. Furthermore, confusion in terminology has led to disagreement among pathologists over what actually constitutes cancer of the thyroid gland. Certainly histologic study of thyroid tissue is difficult and is further complicated when the newer antithyroid drugs of the thiourea group have been used.

Our other source of material for pathologic study, the surgical pathology laboratory, furnishes us with an entirely different viewpoint. Statistics drawn from this source indicate a remarkably high incidence of carcinoma in nodular goiters. A general review of recorded series shows that the incidence of carcinoma in thyroidectomies performed for nodular goiters is around 7%, and even higher in the non-toxic type.

TABLE I
INCIDENCE OF THYROID CANCER
IN ALL NODULAR GOITERS

Crile (1949)	5.6%
Hinton and Lord (1945)	7.6%
Cole (1944)	7.2%

The reasons for such disparity in autopsy and surgical statistics have been pointed out by Crile. First, the patients coming to thyroidectomy have been carefully screened at first by the patient, then by the referring physician, and finally by the surgeon, and many obviously innocent goiters are never operated upon. Second, confusion as to what constitutes thyroid cancer confounds the issue. Third, the method

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of presentation of statistics by different investigators is misleading; for example, it would be as wrong to include all frank carcinomas in a series of nodular goiters as it would be to list all ulcerating gastric carcinomas in a study of stomach ulcers.

It is apparent that the high incidence of thyroid cancer in patients operated upon is not a true picture of the general incidence. On the other hand, what policy is to be pursued in dealing with nodular goiters? We can immediately dismiss from this discussion all *toxic* nodular goiters. Here, the occurrence of malignancy is so rare as to be a curiosity, and, therefore, toxic nodular goiters can be dealt with without fear of malignancy. Among the non-toxic nodular goiters, malignancy is much more common in single nodules than in multinodular glands. From the accompanying table it can be seen that the overall incidence of carcinoma in surgically removed non-toxic nodular goiters approaches 10%, while in single nodules it approximates 20%.

Table II
Incidence of Thyroid Cancer
In Nontoxic Nodular Goiters

		Single Nodules	Multiple Nodules	All Nontoxic Nodular Goiters
Crile	(1949)	24.5%	10.9%	
Cope	(1949)	19.0%	10.1%	
Cole	(1944)			17.1%
Cole	(1949)	24.0%	11.0%	17.2%
Soley	(1948)	16.6%		
Lahey	(1951)	10.04%		
Coffey	(1950)	21.7%	6.6%	11.5%

Development of malignancy in nodules in the thyroid gland is debatable. Lahey and others feel that thyroid cancer definitely originates in pre-existing adenomas. On the other hand, Crile states that surgeons should think of discrete tumors of the thyroid not as benign adenomas which may become malignant, but as tumors which may be cancerous at the time of operation. Cope emphasizes that the high incidence of malignancy in single nodules is not surprising in view of the definition of *neoplasia:* "A neoplasm is an area of tissue growing without regard to the normal needs of cell regeneration and out of bounds of normal physiologic control. No neoplasm is known which afflicts an entire organ or tissue from its inception. A neoplasm starts in one area only—never spontaneously and evenly throughout the whole. Thus from the anatomic point of view a neoplasm is in contrast to hyperplasia or hypertrophy, growths affecting the whole simultaneously and to comparable degree. Neoplasms may be either benign or malignant. This distinction between benign and malignant is drawn anatomically by the following criteria—benign displaces but does not invade the neighboring tissue; the benign does not metastasize."

If the problem of the solitary thyroid nodule is viewed as a whole, it would seem wise to advise surgical excision of such a mass rather than to take a chance on missing a malignant tumor. As Ward has stated, "a definite diagnosis of malignant goiter should seldom be made. If one waits for the textbook picture, the time for surgical cure has passed." In addition, he points out that among patients with thyroid carcinoma, only 20% will survive for five years when the diagnosis is made pre-operatively, 40% when it is made at operation, and 80% will be alive and well after five years when the diagnosis is made in the pathology laboratory. Therefore, with the almost insignificant and negligible mortality and morbidity from operative removal of single thyroid nodules, the indication appears to be clear-cut that all solitary adenomas should be surgically removed at an early date.

Palpation of solitary nodules in an otherwise normal-feeling thyroid gland is unreliable, insofar as it is possible thereby to make an accurate preoperative diagnosis. It is impossible by this method to distinguish between true adenomas, involutional colloid cysts, inflammatory lesions, and carcinoma. This furnishes further evidence of the advisability of surgical removal of single nodules. Soley has estimated that in every 100 cases of operation for solitary nodules, 40% will be found to be involutional (colloid) nodules, 23% will be benign adenomas, and 17% will be malignant. In this connection, a satisfactory working classification of thyroid "adenomas" is as follows.

Table III
Classification of
Thyroid Adenomas

1. True adenomas
   a. Embryonal
   b. Fetal
   c. Hurthle cell
2. Colloid
3. Papillary cystadenoma

True adenomas and cystadenomas may become malignant while the colloid type is involutional in nature.

To sum up the problem of solitary thyroid nodules, pre-operative diagnosis by palpation is inaccurate and unreliable; the incidence of carcinoma in surgically removed single nodules is strikingly high; the mortality and morbidity from surgical removal of such a nodule are negligible; the safest plan by and large is to remove completely any solitary nodule of the thyroid gland. Crile has listed for categorical purposes the following indications for surgical removal of thyroid nodules.

TABLE IV

INDICATIONS FOR REMOVAL OF THYROID NODULES

1. All enlarging adenomas.
2. Those of firm consistency which is different from remaining gland.
3. Those giving pressure symptoms.
4. Those for cosmetic reasons.
5. Those in children.

A different situation exists where the patient has a multinodular nontoxic goiter. Here the incidence of malignancy is not nearly as high as in the single adenoma, but from the statistical studies quoted above it is clear that a real danger of cancer exists here too. While removal of all solitary nodules is urged, thyroidectomy for all multinodular goiters is not so compelling. The hazards of thyroidectomy for all nodular goiters are of some consequence and are probably not justified for the sole purpose of preventing cancer of the thyroid. Also, Cope has reported instances where malignancy developed in thyroid remnants after prophylactic thyroidectomy. It is probably wise to remove for cancer prophylaxis all nodular goiters which have shown evidence of growth or other suggestions of malignancy. There are other indications for thyroidectomy in multinodular glands, such as pressure symptoms, unsightliness, and so forth, but operation for cancer prevention is not as imperative in multinodular goiters as it is for the single adenoma. However, it should be kept in mind that, although goiters are more common in females, the incidence of cancer in nodular goiters in men is three times as high as in women. Hence we should be more intent to remove multinodular non-toxic goiters in men than in women.

Finally, with regard to the overall problem of malignancy in nontoxic nodular goiters, a comparative study by Hinton and Lord is quite graphic. They found that among breast tumors which were diagnosed pre-operatively as being benign the incidence of malignancy at operation was 6.7%. Among nodular goiters considered pre-operatively to be benign, the incidence of malignancy was 7.6%. No one hesitates to recommend biopsy and histologic study of breast nodules; therefore, why should not the same policy be applied to the thyroid? One explanation may be that the "occasional" surgeon does not hesitate to remove a breast tumor, but does pause before attacking the more formidable neck region.

In summary, the incidence of malignancy in nontoxic nodular goiters treated surgically is in the neighborhood of 10%, while it approaches 20% when we consider only solitary nodules. Pre-operative diagnosis by palpation of solitary nodules and by consideration of the age of the patient and the size of the lump is not entirely satisfactory. All single nodules should therefore be surgically extirpated early unless strong contraindications exist. Multinodular goiters should be carefully screened before the decision only to observe the patient is made. The mortality and morbidity from surgical removal of thyroid nodules are extremely low; hence thyroidectomy for cancer prophylaxis is recommended in all single adenomas and in multinodular goiters where uncertainty exists. Since the incidence of unsuspected malignancy in nodules of the breast and thyroid treated surgically is approximately the same, a plea is made for early surgical removal of these nodules as a means toward earlier diagnosis and treatment of thyroid cancer.

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805 West Franklin Street.

Doctors Minister to King Football.

Gridiron game time can mean kick-off time for a new public relations project. Lynchburg, Va. doctors are calling the signals on this PR play. Each year members of the *Lynchburg Academy of Medicine perform complete physical exams for members of the local high school football squad* and also arrange for a doctor to be in attendance at every game—at home or away.

The high school coach notifies the Chairman of the Lynchburg Academy Public Relations Committee each fall when football practice is about to begin. Then a special day is set aside on which five Academy members go to the football stadium, examine all players free of charge and issue health certificates.

Whenever the Lynchburg team plays at home, two doctors from the Academy sit on the bench to provide any needed medical attention. If the visiting team requests it, a doctor is supplied for their players, too. When the Lynchburg team plays away from home, either an Academy member attends the game or the Public Relations Committee makes arrangements for a doctor in the town in which the game is played to attend the team.

Dr. John W. Davis, Jr., of Lynchburg, reports that *"families of the players seem to greatly appreciate this little service"* . . . which only goes to show that pigskin and PR are a potent combination. (The PR Doctor, November 7, 1952.)

MANIFESTATIONS OF EXTRINSIC PRESSURE ON THE INTESTINES BY DISTENDED URINARY BLADDER*
(2 Case Reports)

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Washington, D. C.

In barium studies of the gastro-intestinal tract, a distended urinary bladder may produce displacement and pressure deformity of the small and large bowels. By virtue of its not too infrequent occurrence, roentgenologists are cognizant of this finding. The fact that this condition is so evident, will explain, perhaps, why perusal of periodicals of the past twenty years, and of the recent textbooks, yielded no mention of the subject. Nevertheless, errors are made occasionally and a diagnosis of neoplasm or cyst will be rendered.

The findings produced by either a distended urinary bladder or a retroperitoneal or abdominal neoplasm can be identical. An attempt to rule out the former is frequently made by having the patient void and immediately repeating the intestinal film. If the mass persists, one may conclude that it is not the bladder. However, this is not infallible, as will be shown later. In patients with marked urinary retention, although a considerable quantity of urine is voided, the residual urine in the bladder may be sufficient to cause displacement and pressure deformity of the bowel.

The fact remains that, to rule out a distended urinary bladder, one must first think of this condition. Then it is necessary not only to have the patient void, but to catheterize the bladder and make certain that this viscus is empty.

The following two cases are examples of errors in roentgen diagnosis due to a distended urinary bladder (in one case after the patient had been instructed to void), causing displacement and pressure deformity of the bowel.

Case 1: J. C. (Register No. 22-738), a 58 year old colored male was admitted September 14, 1949, with the chief complaint of stomach trouble and weakness of two months duration. There was a gradual onset of anorexia, weakness, and a weight loss of twenty pounds. He had been told by his local physician, following x-ray examination, that he had "an ulcerated stomach". No relief was obtained by a bland diet and medication. For three weeks prior to admission, he had noticed tarry stools. Repeat x-ray examination was done and he was told his ulcer was spreading and hospitalization was advised.

Systems review revealed progressive nocturia, which at time of admission was three times nightly. He also noticed urgency and diminution in size and force of his urinary stream.

Physical examination was that of a well developed, thin, cachectic, Negro male in no acute distress. Temperature was 98.6. Blood pressure was 166/108. The abdomen was negative. Rectal examination disclosed that just inside the external sphincter was a hard, lobular mass in the region of the prostate and cul-de-sac.

The hemoglobin was 11.8 grams with 4,200,000 red blood cells, 5,000 white blood cells and 53% neutrophils.

Urinalysis showed a specific gravity of 1.010, no albumin, no sugar, and 4-5 white blood cells.

Barium enema examination on September 16th showed the distal one-half of the sigmoid colon to be narrowed with evidence of extrinsic pressure, the colon being displaced posteriorly. The distal ileum was displaced superiorly and anteriorly.

Barium meal examination on September 20th showed an irregular defect along the greater curvature of the midportion of the body of the stomach. Upon reexamination one week later, this defect was less prominent and was considered to be enlarged rugae. A film taken six hours after the ingestion of the barium (Fig. 1) showed evidence of a mass situated in the midline, overlying the midportion of the sacrum and displacing the small intestine to either side. The exact origin of the mass could not be determined except that it definitely did not arise from the large or small bowel.

Gastroscopy on September 21st revealed a normal

*From the Department of Radiology, Veterans Administration Hospital, Richmond, Virginia.

Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the results of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

stomach and antrum. The greater curvature of the stomach showed large rugae.

On September 21st, the patient was seen in consultation by the Urology Service. The previously described rectal mass was again noted. The patient voided 300 cc. of urine. He was then catheterized and 400 cc. of residual urine was obtained. The rectal mass disappeared. The blood urea nitrogen at this time was 41.



Fig. 1.—Film taken six hours after barium meal. Small intestine displaced to either side indicating presence of midline mass.

Cystoscopic examination was done on September 26th and a diagnosis of benign prostatic hypertrophy was made.

The repeat barium meal of September 28th no longer showed evidence of the previously described mass on the six hour film (Fig. 2). It was concluded that this mass was due to a distended urinary bladder. The barium enema on October 20th was also normal.

Intravenous pyelography on October 17th revealed hydronephrosis and a poorly functioning left kidney.

A supra-pubic prostatectomy on October 17th disclosed a benign prostatic hypertrophy.

Prior to discharge the blood urea nitrogen decreased to 21. The patient was discharged November 22nd much improved.

Case II. R. W. (Register No. 25-908), a 60 year old Negro male, was admitted March 6, 1950, with the chief complaint of vomiting daily for about two weeks. This occurred 1/2 to 1-1/2 hours after meals and consisted of clear liquid and food which he had just eaten. His appetite had remained good. He also complained of frequent heartburn and sour eructations, but no abdominal pain. One week prior to admission, he had one loose, black tarry stool and since then had been constipated. There was no weight loss. He had no previous history of gastrointestinal disturbances.



Fig. 2.—Repeat barium meal eight days later. Six hour film no longer shows mass. (Compare with Fig. 1).

Systems review revealed nocturia three to four times and difficulty in urination for four to five months. He had recently developed frequency.

Physical examination was that of a well nourished and well developed male. His temperature was 99.4. Blood pressure was 190/120. His entire abdomen was tense and tympanitic but for the right upper quadrant, which was flat to percussion. There was a suggestion of fullness in the right lower abdomen. Rectal examination disclosed a moderately enlarged prostate gland with induration on the left.

The hemoglobin was 11.6 grams with 4,150,000 red blood cells, 9,000 white blood cells and 81% neutrophils.

Urinalysis showed specific gravity 1.008, a very faint trace of albumin, and 3-4 red blood cells per high power field.

Barium meal examination (Fig. 3) on March 10th



Fig. 3.—Barium meal examination. Small bowel is bunched together and seen only on left side of abdomen.

showed no evidence of any intrinsic abnormality in the esophagus, stomach or duodenum, but for a smoothly outlined pressure defect on the greater curvature of the antrum, the pressure being present below and to the right of this portion of the stomach. The head of the barium column was in that portion of the small intestine overlying the left iliac fossa, being situated in the proximal ileum. That portion of small bowel visualized appeared bunched together and was seen only on the left side of the abdomen. The roentgen findings suggested the presence of a large lower abdominal mass, probably representing a retro-peritoneal neoplasm. Barium enema examination was advised but was not done.

Barium meal re-examination three days later for further study of the small intestine confirmed the previous findings and in addition, a smooth pressure defect was seen on the mesial surface of the small intestine in the left iliac fossa and apparent displacement of the cecum and ascending colon of the right (Fig. 4). Based on the experience of the previously reported case, the possibility of an enlarged urinary bladder was considered. Accordingly, the patient was instructed to void and a film taken immediately after this. The film still showed the findings as noted before.

Further physical examination on March 14th revealed a mass occupying the entire right abdomen and extending across both lower quadrants. The following day, the patient began vomiting continuously. The blood urea nitrogen was found to be 96 and the CO_2 to be 28 volumes per cent. The patient was voiding and on March 16th passed 350 cc. of clear, light, straw-colored urine. An intravenous pyelogram showed no contrast material in either kidney as late as three hours after injection. A large soft

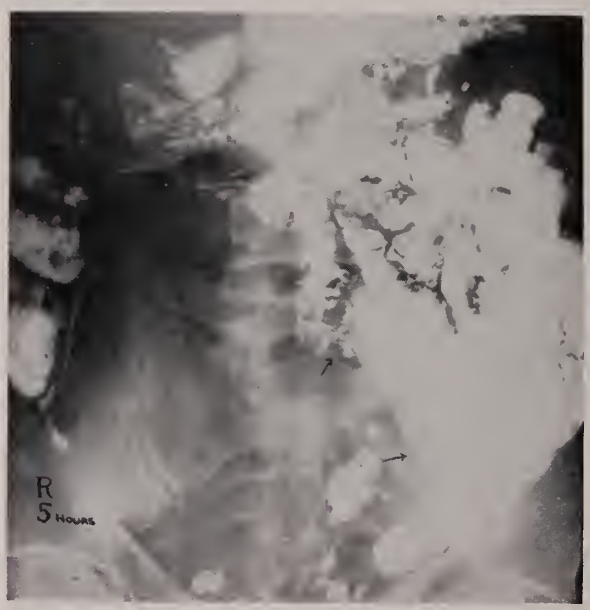


Fig. 4.—Repeat barium meal three days later. Smooth pressure defect on mesial surface of small intestine in left iliac fossa. Ascending colon and cecum appear to be displaced laterally.

tissue mass was seen in the bony pelvis. In view of the blood urea nitrogen, the abdominal mass, and the intravenous pyelogram, it was felt that the mass might represent a distended bladder. The patient was catheterized with difficulty and 2,000 cc. of clear urine was slowly released. The patient gradually improved and by April 3rd, the blood urea nitrogen had fallen to 28. A transurethral prostatic resection was performed April 6th. The histological report was that of benign prostatic hypertrophy. The patient was discharged April 18th in an improved condition. The patient returned for a follow-up

July 18, 1950. A small intestinal study at that time demonstrated no abnormality.

Summary

A distended urinary bladder can simulate a retroperitoneal or abdominal neoplasm causing displacement and pressure deformity of the stomach, the small and the large bowel. Films taken immediately after the patient has voided do not exclude a distended bladder, since residual urine is often sufficient in quantity to cause these findings. Two cases are presented as examples.

5012 Sargeant Road, Northeast.

Warn Against Promiscuous Use of More Than One Antibiotic.

Promiscuous use of combinations of antibiotics may result in one of the drugs deterring the effect of the other on a disease-causing organism.

Only if an organism proves resistant to a single antibiotic by laboratory test or adequate therapeutic trial should combinations of antibiotics be used, it was stated in a recent J.A.M.A. The report was made to the Council on Pharmacy and Chemistry of the A.M.A. by Dr. Ernest Jawetz and J. B. Gunnison, M.A., both of San Francisco.

They divided antibiotics into two groups: (1) penicillin, streptomycin, bacitracin and neomycin, and (2) aureomycin, chloramphenicol, terramycin and, possibly, sulfonamides. They said that a combination of drugs within either group will not antagonize each other and that simple additive effects from their multiple use are often observed. However, the combination of a drug in one group with one of the other group may interfere with the effectiveness of the drugs.

In addition, the report stressed the disadvantages of taking fixed ratios of mixtures of antimicrobial agents prepared by pharmaceutical firms. The reasons included the possibility that (1) such mixtures may enhance the development of drug sensitivities in the patient, (2) the dose relationships for parenteral administration are often incongruous, and (3) there is little, if any, objective evidence to indicate that the mixture is more effective in a specific infection than is an individual component.

THE USE OF MYANSIN (TOLSEROL)* IN BLACK WIDOW SPIDER BITE

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The purpose of this article is to demonstrate the effective use of myanesin (Tolserol) in black widow spider bite.

In 1947 Berger and Bradley[1] indicated the use of myanesin in order to produce muscular relaxation. Myanesin has subsequently been shown to be of value in the relief of spastic disorders, such as Parkinsonism[2], tetanus[3], backache, and cerebral palsy[4]. It has been used in anesthesia to promote abdominal relaxation for surgery. It has also demonstrated an euphoric effect in depressed states.

Although myanesin is a relatively safe drug, it may induce horizontal, vertical, or rotary nystagmus when introduced intraveneously. The patients occasionally complain of a "pin cushion" feeling. In order to obtain relief of symptoms it appears necessary to give the medicine intravenously. The duration of action of the drug is from 4 to 5 hours[5].

The bite of lactrodectus mactans (Black Widow spider) produces marked muscular spasm. Consequently, it was thought that myanesin could relieve this type of painful condition, although no previous report of such use has been noted. The exact mechanism as to how myanesin has this beneficial effect on the spinal cord and central nervous system is not known. The case described below demonstrates an excellent response on the part of the patient to myanesin after failing to obtain relief from morphine.

Case: A 22 year-old white male farmer was first seen 45 minutes after having been bitten on the penis by a Black Widow spider. He complained of back and leg pains, moderately intense. A skin test for anti-venom serum found him to be highly allergic, which ruled out that path of treatment. He was treated with 1/4 grain morphine. Hospitalization was advised, which was refused. The following morning, about 10 hours after the bite, he sought hospitalization. He was in agonizing pain. The morphine had given him no relief; instead, discomfort increased. Except for moderate abdominal spasm, the physical examination was negative. At this time he complained bitterly of back, leg and abdominal pain. Fifty c.c. of myanesin, 20mg./c.c. was given intravenously over a 5 minute period. The patient reported relief from pain even while the drug was being administered. Comfort remained for about 2 hours, whereupon the pain returned. The medication was repeated and again the patient found relief while myanesin was being given. He then went to sleep. He was judged asymptomatic the following day and was discharged.

*Drug—Furnished through courtesy of Squibb Company.

DISCUSSION

More than sixty preparations have been used in the treatment of arachnoidism. Most of the medications have not been too helpful[6]. Calcium gluconate appears to be of value; however, subsequent reports on the drug have not been as enthusiastic as when it was initially introduced. The antivenom does not stop pain and occasionally can not be used because of sensitivity of the patient. Neostigmine[7] was introduced by Bell and Boone. This drug appears to be effective, although in the case reported numerous other medications had been previously used. Morphine frequently does not give relief.

CONCLUSION

Myanesin offers a new and useful form of treatment, leading toward rapid relief from pain while the drug is being given.

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(3 - ortho-toloxy - 1, 2 - propanediol)

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Doctors' Incomes at All-Time High.

The average physician in private practice had a 1951 net income, before taxes, of $15,262—a rise of 35 per cent in four years according to *Medical Economics,* (December 1952), national business magazine for doctors. The magazine is publishing the results of a nationwide survey of medical practice, based on a questionnaire sent to each of its 134,000 M.D.-readers.

According to the survey, the average U.S. doctor is in a better financial position now than at any time in the past. But physicians' incomes are found to vary widely when regional and other breakdowns are made.

The farther West a doctor practices, says *Medical Economics,* the higher his income is likely to be. Thus, physicians in New England and the Middle East have the lowest incomes in the country, while those in the Far West have the highest.

Doctors' incomes tend to be highest in cities of 50,000 to 500,000, lowest in cities of more than 1 million. Of the ten largest U.S. cities, Cleveland and St. Louis show the highest physicians' incomes, and New York, Philadelphia, and Boston the lowest.

The magazine also found that incomes are generally highest among medical men with from ten to twenty years in practice. They're lowest among those with thirty or more years' experience.

New Books.

Below are listed some of the newer additions to the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be borrowed by our readers under usual library rules.

Arruga—Ocular surgery. 1952.
Benda—Developmental disorder of mentation and cerebral palsies. 1952.
Carmichael & Mead, eds.—The selection of military manpower—a symposium. 1951.
Cole & Puestow—First aid. 4th ed. 1951.
Davidson—Forensic psychiatry. 1952.
Gilbert—Understanding old age. 1952.
Hurst & Woodson—Atlas of spatial vector electro-cardiography. 1952.
Kaehele—Living with cancer. 1952.
Lanman—Modern trends in infant nutrition and feeding. 1952.
Lewis—Practical dermatology. 1952.
Litzenberg—Synopsis of obstetrics. 4th ed. 1952.
Meakins—The practice of medicine. 5th ed. 1950.
Rivers—Viral & rickettsial infections of man. 2nd ed. 1952.
Strauss, Ostow & Greenstein—Diagnostic electroencephalography. 1952.
Strong and Elwyn—Human neuroanatomy. 2nd ed. 1948.
Sugar—The glaucomas. 1951.

STEVENS-JOHNSON SYNDROME: Report of a Case Treated with Aureomycin

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Erythema multiforme is an acute inflammatory disease characterized by bright or dark red symmetrically distributed lesions which may be macular, papular, nodular, vesicular or hemorrhagic. The idiopathic type as described by Herbra is a self-limited disease usually seen on the hands, forearms, face, neck and lower legs, which runs its course in two to four weeks, and may recur.

The systematic type is characterized by the same types of lesions and may be a manifestation of drug eruptions, serum sickness or toxemia of systematic diseases such as pneumonia, nephritis and gastrointestinal upsets.

Unusual and severe types of erythema multiforme defy classification. In this group the syndrome described as Stevens-Johnson disease (ectadermosis erosiva pluriorificialis) is of particular interest and is the subject of this paper.

Stevens-Johnson syndrome is an acute febrile disease of varying severity, usually characterized by erythema multiforme, conjunctivitis, balanitis and stomatitis. The mucous membranes of the nose, esophagus and anus may be involved also. The lesions involving the mucous membranes may be vesicular, bullous or ulcerative. Except for the fortunately rare complications of corneal ulcerations and resulting panophthalmitis, recovery is complete in a few days to a few weeks.

The etiology is unknown. Attempts have been made to isolate a causative virus, but have not been successful. Recent observations by Finland, Jolliffe and Parker[3], Anderson, Bolin, Sutow and Kitto[1], and Morgan and Finland[5] lend further support to this theory. Penicillin and sulfonamides have been used without success except possibly to decrease the incidence of ocular complications. Recently Church[2] and Lynas[4] each have reported the prompt recovery of a patient with Stevens-Johnson syndrome following the administration of aureomycin.



Before treatment.



After treatment.

The literature on this condition was fully reviewed by Soll[6] in 1947, and readers interested in a more

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Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

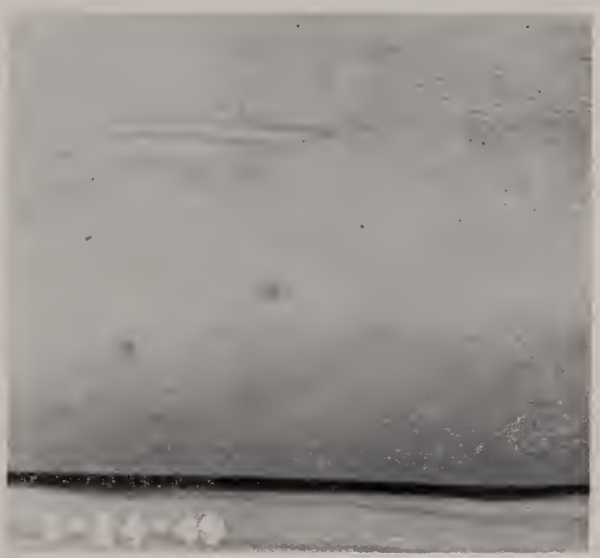
detailed account are referred to this source. This case is presented to demonstrate the result of aureomycin therapy in this disease.

History

C.A.E., a 32 year old single white male service station operator, was admitted to McGuire Veterans Administration Hospital, Richmond, Va., on March 14, 1949. One month previously he had been in bed for one week with fever, malaise and productive cough, and had gradually recovered without medication. One week before admission, the patient developed pruritus and inflammation of the glans penis. He applied "calgesic ointment" several times with relief from pruritus, but the inflammation became more severe with weeping, and spread to involve the prepuce and scrotum. On the second day he developed shallow ulcers on the lips, gums, palate and tongue, severe conjunctivitis, and red, discrete, pruritic macules on the forearms, thighs and buttocks. After appearance of the above lesions, he was given aspirin and penicillin without improvement. On at least one occasion his temperature reached 103°F. Because of progressive increase both in lesions and in severity of symptoms, he was referred to the hospital.



Before treatment.



After treatment.

Physical Examination

The temperature was 103°F., the pulse 120, and the blood pressure 120 mm. Hg. systolic and 70 mm. Hg. diastolic. The patient was a well developed and well nourished white male who appeared acutely ill. There was a severe bilateral conjunctivitis which did not involve the cornea. The lips were swollen and cracked and the mouth could be opened only slightly. There was desquamation and pseudomembranous exudate present on all areas of the tongue, gums, oral mucous membranes and pharynx that could be visualized. The prepuce and glans penis were swollen, red and weeping, and the skin of the scrotum was also red and swollen. There were sharply demarcated, erythematous, iris-like lesions, 0.5-1.0 cm. in diameter, many having hemorrhagic centers, on the extremities and buttocks. The palms and soles were not involved. The remainder of the physical examination was essentially negative.

Laboratory Studies

The Kahn test was negative. The hemoglobin was 14.4 gms.%. The leukocyte count was 5,300 per cu. mm. with 68% neutrophils, 31% lymphocytes and 1% eosinophils. Urinalysis was negative. Routine agglutinations, including Weil-Felix agglutinations, were negative. Darkfield examination of serum from the penile lesion was negative. Blood culture was negative. The leukocyte count remained within normal limits throughout hospitalization. The roentgenogram of the chest was normal. Facilities for virus studies were not available.

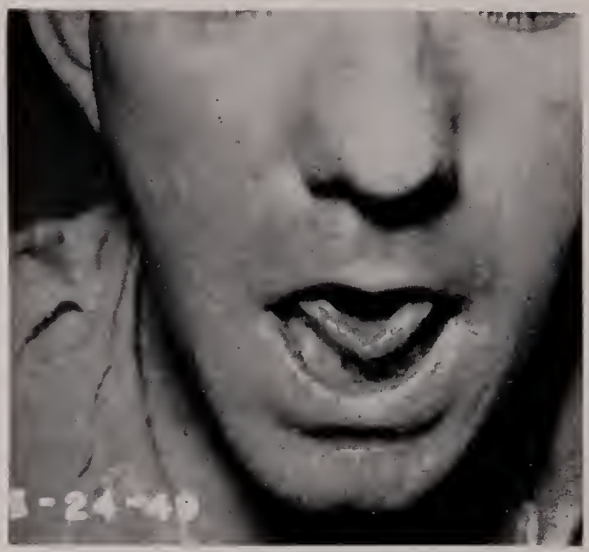
Course in the Hospital

The patient was given crystalline penicillin G, 200,000 units intramuscularly every three hours, boric

acid ophthalmic ointment, boric acid soaks to the genitalia, and hydrogen peroxide mouth washes for 48 hours without improvement. On March 16, 1949, the third hospital day, all therapy except boric acid ophthalmic ointment was discontinued and aureomycin therapy was begun. The patient was given 0.5 gm. aureomycin orally every hour for three doses, then 0.5 gm. every three hours for 5 days, a total dosage of 21 grams aureomycin. The next morning the patient felt better and some observers thought that the lesions were improved. By the following day, after 48 hours of aureomycin, there was marked improvement in all lesions and the patient generally felt much improved. His convalescence was uneventful and he was discharged from the hospital March 31, 1949, seventeen days after admission.



Before treatment.



After treatment.

COMMENT

The very prompt recovery following the institution of aureomycin therapy suggests that aureomycin could have been the responsible agent. Obviously no conclusions can be drawn from the study of only one case; however, we feel that further trial of aureomycin in the treatment of Stevens-Johnson syndrome is indicated.

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DR. WALTER REED, EPIDEMIOLOGIST—A PROFILE

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It is rare that any one scientific achievement can be ascribed to any one person alone. The best that one can hope to have said of him is "he had a hand in the job". But to pay proper and rightly-deserved tribute to Dr. Walter Reed, it must be said that to this one man we must ascribe the achievement of solving one of the greatest mysteries of the scientific world. It is in tribute to him that we have prepared this profile.

The magnitude of Reed's work will long stand as a landmark in the history of man's effort in the conquest of disease. His name well deserves its place among the great men of science of the Nineteenth Century. Public Health workers associate Dr. Reed primarily with the science of epidemiology and link his accomplishment, the solution of the mode of transmission of yellow fever, with the accomplishments of Dr. John Snow of cholera fame; Pasteur of rabies and anthrax; Dr. William Budd, whose work in typhoid fever opened the way to the ultimate control of the disease; with Koch of tuberculosis; Ehrlich of syphilis; and Theobald Smith of Texas fever.

Virginians take pride in his work and in the fact that three of its native sons, Dr. Reed, Dr. Henry Rose Carter, and Dr. Wade Hampton Frost made epidemiological contributions that paved the way for the control of many of the communicable diseases. The work of these men played a major role in the formalization of the natural history of disease. Their contributions also aided in the establishment of the epidemiological principles which later scientists so successfully applied to the control of communicable diseases.

Dr. Reed was born at Belroi, Gloucester County, Virginia, the son of the Reverend Lemuel Sutton Reed and Pharaba White Reed. His father, the son of a North Carolina planter and a descendant of Sir Christopher Reed of Chipchase Castle on the Tyne, was born near Roanoke Sound in North Carolina. He became a minister of the Virginia Conference of the Methodist Episcopal Church, South, and worked diligently throughout his life in the cause of Christianity. It was said of Reverend Reed that he was the very soul of honor and that his name was the synonym for integrity, uprightness, fair dealing and manly bearing. His influence on his family and on his son, Walter, was profound. From him, Walter Reed inherited his force of character, his self-discipline, his love of knowledge, and his keen sense of humor.

Little is known of his mother except that she was the daughter of a North Carolina planter of English extraction. She was born on a plantation in the vicinity of Roanoke Sound, North Carolina. Biographers of Walter Reed have all agreed that she was a most gentle person, with a keen desire for knowledge and that she assumed, as was the custom of the day, the duty of educating her children during their early years.

The family moved to Farmville shortly after Walter Reed's birth, and it was there that he started his early education in a private school. Nine years later, his father received a call to Charlottesville, Virginia, where he placed Walter under a private tutor, the schools of the area being closed in this period. As a young man, Walter Reed was most precocious, and he entered the University of Virginia at sixteen, where he spent one year in the Academic Department and one in the Medical School, to graduate in 1869 the youngest man ever to receive his doctorate of medicine at the University!

He was one of the first physicians of his day to realize the importance of an internship, and he entered Kings County Hospital, where he embarked upon the arduous duties of interning. Later he worked in medicine in several of the hospitals and received an appointment as District Physician to one of the poorest slum districts of New York. Here he came face to face with the reality of human suffering. Placed among the lowly and the destitute, he acquired the devotion to the suffering of mankind that was in later years to give him his great understanding and tolerance. At the age of twenty-two

he was promoted to be one of the five inspectors of the Borough of Brooklyn Board of Health. In that period, in metropolitan New York, an inspector was in reality a combination physician and sanitarian who devoted his time to the control of communicable diseases and epidemics. It was here that he received his first public health training, an experience which was later to prove invaluable.

After two years in this position, he was compelled to make a momentous decision—whether to spend his life in administrative medicine or to seek success in general practice. In this period, success in general practice was, to a large degree, dependent on social connections, the possession of wealth and influential friends. Brilliant though he was, he had very few connections among the successful physicians of the day. Accordingly, he decided to join the Medical Services of the Army of the United States.

It is reported that he believed he could find financial security and engage in scientific research and, at the same time, serve humanity as an Army physician. Among his papers is the terse statement that he believed the acceptance of a commission would afford him an opportunity to rise quickly in his profession so that his sweetheart, Amelia Lawrence, would think well of him. In June, 1875, he was commissioned Assistant Surgeon with the rank of First Lieutenant.

The next eighteen years of his life were spent as a garrison surgeon. It was during this period, April 25, 1876, that he married his sweetheart, Amelia Lawrence, of Murfreesboro, North Carolina. Miss Lawrence, a person of great kindness, was to follow him to the frontier and experience with him the hardships encountered in this rawest of civilizations and later was to share with him the fulfillment of his life's dreams.

It was also during this period that his two children were born; the first, Walter Lawrence Reed. was born December 4, 1877, at Fort Apache; the second child, Emilie Lawrence Reed, was born July 12, 1883, in Western Nebraska. Little is known of his life during these years. He had fifteen changes of station, was reported to be a most efficient officer, and to be devoted to his work. During this interval in 1881, he was stationed at Fort McHenry in Baltimore. He spent as much time as possible in post-graduate study at the Johns Hopkins University. It was this experience which awakened an interest in research.

After two changes of station, he again returned to Baltimore in 1890 for duty. This assignment was most profitable because the faculty of the Johns Hopkins Hospital, stimulated by the work of Pasteur, Koch, and Ehrlich in Europe, was pioneering in a new concept of medical education. Under the enthusiastic and capable leadership of Dr. William Henry Welch, Dr. John Miller Turpin Finney, Sir William Osler, Dr. William Stewart Halstead, and Dr. Howard Atwood Kelly, Hopkins was embarking on the laboratory phase of medical research, and great emphasis was being placed on biochemical and biophysical studies.

No doubt, the enthusiasm of the faculty and preceptors was contagious and influenced Dr. Reed in a most profound manner. He always had a deep-seated interest in research and plunged into the medical studies being conducted at the institution with enthusiasm. It was here he received his basic training in pathology and bacteriology. In these surroundings, he acquired a familiarity with technical methods and became acquainted with the various organisms thought to be the cause of specific diseases. This knowledge was later to help him solve the mystery of yellow fever.

Leaving Baltimore in 1891, Dr. Reed, by now well trained in laboratory medicine, was assigned for a brief period to a western station. After this tour of duty, he was then assigned in 1893 as Curator of the Army Medical Museum and served as Professor of Bacteriology and Clinical Microscopy in the Army Medical School. Garrison life for Dr. Reed, who was now a Major, had finally ended.

It would be difficult to say at exactly what point Walter Reed became an Epidemiologist, but it is highly probable that it was his assignment as Professor of Bacteriology in the Army Medical School which was the turning point. Epidemiology in this period was just beginning to be formalized. Physicians and laboratory workers were studying the principles of contagion that we now know so well as the factors governing the spread of disease. These factors, commonly referred to as the specific causative organism, the susceptible individual, the reservoir of infection and the mode of transmission of the organism, were at this period challenges to the inquisitive research mind.

Current dictionaries briefly and tersely define Epidemiology as "the Science of Epidemics". The American Epidemiological Society states that it is "the Science which concerns itself with the natural history of disease as related by some common factor of age, sex, race, location or occupation, as distinct from the development of disease in individuals". The late Dr. Wade Hampton Frost, Professor of Epidemiology of Johns Hopkins School of Hygiene and Public Health, for his students in advanced Epidemiology, defined it as "the Science which will give, firstly, a picture of the occurrence, distribution and the types of the diseases of mankind, in distinct epochs of time and at various points of the earth's surface, and, secondly, will render an account of the relations of these diseases to the external condition surrounding the individual and determining his manner of life". In brief, it is the study of conditions known or reasonably supposed to influence the prevalence of disease.

From his first introduction to public health work as a District Inspector in the Borough of Brooklyn, Dr. Reed rapidly developed the characteristics necessary to become a practical epidemologist. He possessed the same characteristics of insatiable curiosity as did Dr. John Snow, who, in 1849, published a treatise on "The Mode of Communication of Cholera". Snow's work was based on his first-hand observations concerning the mode of spread of the disease and principles governing its prevention. The work is reported in as detailed a manner as had ever been applied to a disease investigation.

In 1857, only 42 years prior to Dr. Reed's report on yellow fever, Dr. William Budd, a Fellow of the Royal Society, published his most brilliant treatise on typhoid fever, a treatise in which he discussed the natural spread and the methods of prevention of the disease in a period prior to the formalization of the science of bacteriology. Reed, like these men, had the attributes necessary to achieve distinction as an epidemiologist. For what is an epidemiologist but a creature who is skeptical and curious, obsessed with the desire for the truth, and who has not only the ability to recognize new phenomena when faced with them, but who—above all—has sufficient energy and patience to put together all of the pieces of an epidemiologic pattern?

Between 1893 and 1900, the most important work done by Dr. Reed was the investigation of typhoid fever in army camps during the Spanish-American War. From an epidemiological viewpoint, this investigation was a remarkable achievement. The details collected and the ingenious approach to the problem go without comparison. His paper, "Report of the Origin and Spread of Typhoid Fever in the United States Military Camps During Spanish-American War of 1898", is in essence the whole theory of the typhoid carrier. He also worked in the field of typhus fever, malaria, smallpox, and sanitation problems, and his reports have enriched the literature.

The die of an epidemiologist had now been cast. The entire previous experiences of Dr. Reed were now to be brought to focus on the momentous task ahead —the scourge of Yellow Fever.

One of the first authentic records notes yellow fever as being in Central America as early as 1596. Then follow innumerable reports placing it throughout the world in varying degrees of intensity. Between 1702 and 1800 the disease appeared in the United States 35 times. From 1800-1879, it visited the country at some point every year but two. In 1702 there was an epidemic in New York with 570 deaths. New York at this time had a population of only 16,000. It again struck the same city in 1743 with 217 deaths.

Perhaps the worst epidemic experienced by a city in this country was that in New Orleans, Louisiana, in 1853. There were 29,020 cases with 8,101 deaths. It appeared in Norfolk, Virginia, in 1855, with over 10,000 cases and 2,000 deaths among the city's 16,000 population. It is reported that over one-third of the city's white population succumbed. Portsmouth, Virginia, across the river from Norfolk, had three to four thousand cases. Twenty-five years later, it struck Memphis, Tennessee, causing 17,600 cases with 5,150 deaths. The disease is recorded as showing a preference to the southern states and tropical and sub-tropical countries. In places above the frost line, the onset of winter brings about a reduction in the number of yellow fever cases In Havana, Cuba, yellow fever had been recorded as being endemic since 1648, sporadic cases occurring every month in every year, with occasional large epidemics in particularly bad summers.

The cause of this scourge to the human race was accepted until 1793 as a visitation from God. At this time, there sprang up different schools of thought

as to its cause and spread. One theory, supported by many medical groups including the College of Physicians, was that it was spread by contagion of direct importation. Another belief was that the epidemics were of local origin due to spontaneous generation under appropriate climatic conditions. This was probably the beginning of the theory of contagion and non-contagion. In the succeeding years, several theories were expounded on the cause and transmission of yellow fever. Some were downright fantastic and, in retrospect, amusing. A fungus plant, as yet undiscovered, was blamed, as was fermentation. The majority, however, subscribed to the miasma theory.

In 1878, the theory of fomites as the source of contagion was gaining in popularity. This theory held until 1897 when Dr. Guiseppe Sanarelli announced his discovery of the *bacillus icteroides* as the cause of yellow fever. There were those who thought that now, since a definite organism was discovered, yellow fever could be easily wiped from the face of the earth.

Dr. Sanarelli's announcement caused quite a stir and resulted in General Leonard Wood taking immediate action by issuing an order to the effect that Havana and all of Cuba would be sanitated to the point where all towns would be cleaned as if they were scrubbed. General Wood had good reason to effect this order, for at that time he was aware of the fact that yellow fever was killing one in three of the American troops stationed in Cuba and had accounted for a greater toll of life than had Spanish bullets.

Dr. Reed's interest in this disease heightened when he and Dr. James Carroll examined 24 cases of yellow fever and performed 11 careful autopsies and could not find the *bacillus icteroides* present in the blood of the sick or the blood or organs on postmortem examination. From this, they concluded that this organism had no special relationship with the disease. Immediately following this demonstration, Dr. Reed was appointed to head a commission to investigate the cause and mode of transmission of yellow fever.

The Yellow Fever Commission, headed by Dr. Reed, and consisting of Dr. James Carroll, bacteriologist and pathologist, Jesse Lazear, entomologist, and Aristides Agramonte, bacteriologist, was requested by the Surgeon General on May 23, 1900. On May 24, the Adjutant General created the Board and on the morning of June 25, 1900, Dr. Reed and Dr. Carroll landed at Havana, Agramonte and Lazear having preceded them.

The afternoon of June 25 was a momentous time. This was the Commission's first meeting. It was the meeting that signed the death warrant of yellow fever. At this meeting, it was agreed that Dr. Reed would supervise all the work, and the other members would do the specialized work for which they were trained. It was agreed that they would investigate further and obtain conclusive proof as to the theory of the *bacillus icteroides* relationship to the disease. This they did. They ruled out this organism beyond doubt. They showed this organism to be of the hog-cholera type and only a secondary invader in yellow fever.

On that hot June day, when Reed was brought face to face with yellow fever, he made several pertinent mental notes which were later to be keys to the puzzle: (1) Patients were being attended by non-immune persons without contracting the disease; why, he wondered, didn't they get the disease by handling these patients? (2) This disease wasn't contracted under circumstances such as those associated with typhoid and other communicable diseases. Inquiries further showed that the disease had not been contracted in hospitals during earlier epidemics when the disinfection of articles of clothing and bedding was unknown. (3) He observed that patients returning to companionship with comrades during early convalescence did so with no apparent danger of establishing a fresh foci of the disease. This, he thought, wasn't in keeping with the presence of the specific agent in excreta of the convalescent carrier, of which he knew so much from his work in typhoid. Even in the laboratory he could find no growth on ordinary media. (4) His belief in fomites, if ever he possessed any, was forever shaken when he observed that a person who had slept in a bunk after a patient died of yellow fever did not contract the disease. (5) He observed that the disease would strike a person in one house, hop around the corner and strike someone in an unrelated household, then jump across the street and strike another, only to return to the first house and snuff out the life of another member of the family—this without any association whatsoever between the different persons involved. This, he recorded, wasn't in keeping with

the idea of a diffusible poison or miasma carried by the atmosphere.

After making these recordings, he reviewed them in a thorough and logical manner and placed them in their proper order. To these he added the following notes: Here was a disease which had never been demonstrated to be spread by contaminated water; a disease that demanded an elevated temperature before progressing; a disease that was not spread by contagion, direct or indirect; a disease which no previous hygienic measures could arrest; a disease that did not affect crews of ships lying off shore; a disease which was promptly controlled by frost.

His searching mind then recorded, "What disease, other than malaria, can you associate with these criteria?" The time now had arrived to make a decision—whether to search for the cause of this disease or the method of its propagation? The members of the Commission were all aware that insects would serve as intermediate host for certain diseases. The vector theory had been amply demonstrated by several investigators. Patrick Manson, in 1880, showed that a certain kind of mosquito spread elephantiasis. In 1893 Theobald Smith demonstrated the tick to be the intermediate host of Texas Cattle Fever, and, in 1898, the mosquito was shown by Ronald Ross to be the transmitter of malaria.

In 1881, Dr. Carlos Finlay, of Havana, had suggested the mosquito as being guilty of transmitting yellow fever. He went so far as to classify the guilty mosquito and to give the condition under which yellow fever could be propagated. The Commission, having heard of Dr. Finlay's work, called on him and at his insistence, accepted his gift of a little box of larvae of the mosquito he believed spread the disease, the *Stegomyia fasciata*.

At this time, the Commission received a paper by Dr. Henry Rose Carter, of the Marine Hospital Service, showing that even though the incubation period of yellow fever appeared to be only five days, the place or surroundings of the patient didn't become infected until 15 to 20 days. Dr. Carter was a Virginian, born in Caroline County, and educated at the University of Virginia, where he graduated in engineering in 1873. He took his doctorate in medicine at the University of Maryland and became one of the foremost sanitarians and epidemiologists of the century.

To Dr. Reed, the epidemiologist, this discovery of Dr. Carter's could mean only one thing: there was a hidden phase of the incubation period, and from Dr. Carter's report, he decided that the lag phase could be in the body of an insect, wherein the organism had to "ripen".

It was just a guess—a wild theory. But this theory was bolstered when he observed a soldier who, under guard and without contact whatsoever with yellow fever, came down with the disease and died without the guards contracting the disease. To Dr. Reed and his fellow-workers, it looked as though the fever "flew in on the wings of an insect and then flew out".

As all observations pointed to the presence of an intermediate host, it became apparent that in this climate, a mosquito would be the most logical vector. Thus, the decision to search for the mode of propagation received further justification by Dr. Carter's work.

Therefore, it was agreed that the method of attack would be that of seeking the mode of transmission. They would prove or disprove the mosquito theory. But to do this, human beings would be needed for the experiment. Animals wouldn't do—Dr. Agramonte had shown that. But to expose humans to the disease would be dangerous. It would call for complete submission to the possibility of death. What would be the reaction of the Army and the public? The Commission decided to try to experiment on themselves and early in August the experiment was started with great secrecy with the feeding of mosquitoes on the blood of patients with yellow fever.

This was not an authorized experiment—not in the sense that they could risk the lives of human beings to gain an unknown end. Dr. Jesse Lazear and seven soldiers volunteered. The first experiment was made August 11, and all of the volunteers were bitten by infected mosquitoes. But the experiment was unsuccessful; they remained robustly healthy. On August 27, while Dr. Carroll and Dr. Lazear were discussing their failure, they took a mosquito which had 12 days previously fed on a yellow fever patient only two days after the person had developed the disease and allowed the insect to bite Dr. Carroll. Also bitten at this time was a soldier who volunteered and is recorded in the history of the experiment only as being "Case XY". (He was later established as being William Dean of Grand Rapids, Michigan.)

Three days later, Dr. Carroll was in bed. The first case of yellow fever had been produced in a human experimentally. A few days later, the second volunteer, XY, became a patient. Both recovered. Despite the fact that Dr. Carroll and the patient known as XY acquired the disease after being bitten by a mosquito who had fed on the blood of patients ill with the disease, Dr. Lazear did not consider this to be conclusive, nor did he feel that it was irrefutable proof, for he was aware of the fact that during the supposed incubation period, Dr. Carroll had been in contact with cases of yellow fever in the course of his ward rounds, and there was some doubt as to whether the volunteer, XY, had been in contact with the patients.

These notes he made in his diary and also recorded the fact that the mosquito which caused the infection was the one which had fed on the patient during the second day of his illness and was not allowed to bite the victim until the 12th day. This diary was later to give the answer to one of the problems which was bothering Dr. Reed.

It is recorded by many authors that on September 13, while collecting blood from yellow fever patients for study, Dr. Lazear was accidentally bitten by an unidentified mosquito. He contracted yellow fever and on September 25, he became the first and only death to result from these first experiments. It is agreed that there were 9 failures and 2 successes, and only 1 death. The 2 experimental successes and 1 death were enough to incriminate the mosquito. But why, he asked, did we fail in the 9 cases?

Once again the brilliant, searching mind found the answer. Scrutinizing the diary left behind by Dr. Lazear, Reed noticed that the experimental cases of yellow fever were produced by mosquitoes fed on patients in the first two days of illness, and that these mosquitoes had not been used until at least 12 days after the feeding. This, thought Reed, would account for that hidden phase of the incubation period. It would also account for the failures in the first seven volunteers. To Dr. Reed, it meant that the mosquito could pick up the infection only from a yellow fever patient during the first few days of illness, and that once the insect had it in its body, the organism had to remain there in some state for at least 12 days before it could be transmitted to a new patient. Thus, an age-old question was answered—answered in a dead man's diary.

On October 15, Dr. Reed released a preliminary circular in Havana announcing the mosquito as spreading yellow fever. The circular was most conservatively written and called for immediate sanitary control measures. Dr. Reed was aware that to obtain conclusive proof that the mosquito was the intermediate host would require further experiments, and that those experiments would have to be indisputable. Every step had to be under scientific control at all times. But this would require money. It would require specially-designed facilities. More important, it would require more human beings as volunteers. The Army had originally appropriated $8,000 to finance the Commission. Where were the funds to come from—who would allow military personnel to volunteer for such experiments?

Almost in desperation, Dr. Reed applied for permission to use non-immune volunteers. It is probably most fortunate that General Leonard Wood, Governor General of Cuba at the time, was a doctor and thus sympathetic; for he endorsed Reed's request for both volunteers and money. The liberal sum of $10,000 was approved for rewarding these individuals who would risk their lives for the cause of science. In discussing the use of volunteers with Reed, Dr. G. M. Sternberg stated that some of the things wouldn't be covered in the orders—"If the Antivivisectionists got hold of the news that we were prepared even for human experimentation, as a last resort, they'd scream themselves hoarse!!"

At Camp Lazear, named after their dead colleague, near Quemados, the second series of experiments were started in early November. The study program called for three phases, each a specific experiment, and required that every phase was at all times to be carried out under the most rigidly controlled scientific procedures. The first phase would be the infection of non-immune patients by the bite of a mosquito at the will of the experimenters. The second phase would be to use fomites in attempting to infect non-immunes. The third phase would be the injecting of blood from yellow fever patients into non-immunes to produce the disease.

A call for volunteers was made. Records are not consistent as to the number who responded, but a sufficient number was secured to carry to completion all three of the experiments. Each volunteer was offered $100, and if he contracted the disease, he was to get $200. No promise was made in case of

death, although each was told of the risk he was taking. The first two volunteers, both young privates from Ohio, John R. Kissinger and John J. Moran, came "not for money but for interest in humanity and science". The others were all soldiers of the United States Army—brave men! They were followed by more brave men, men who wanted the exciting chance to prove humans could be used in experiments. Some came out of a sense of adventure; all came out of their love and respect for this humble man.

Mosquitoes to be used in the experiment were bred from eggs under rigid control. The insects were housed in buildings screened with wire netting. When one was wanted for experimental purpose, it was carefully removed from its cage and handled with the utmost care. Mosquitoes would be allowed to bite patients with yellow fever at varying stages of their sickness. Then at varying intervals, they would be allowed to bite the non-immune. This data was to be carefully recorded. This phase is well documented and the results are recorded in history.

To eliminate fomites as a mode of spread was a bit more complicated. Into the specially-screened and designed huts went young Dr. Robert Page Cooke* and two soldiers, Folk and Jernigen. Shortly thereafter they were delivered bundles of soiled linen, bed clothing, and personal garments soiled by the body discharges of patients dying of yellow fever. In the stifling heat, they disrobed, donned the contaminated clothing, made their beds with the soiled linen, and remained in the quarantine zone for a period of 15 days. The Commission was pleased that none of them came down with yellow fever.

The third phase of the experiment consisted of injecting blood from yellow fever patients into four volunteers; each came down with the illness.

From these experiments came the conclusive proof for which Dr. Reed was searching. Ten cases of yellow fever were produced experimentally under controlled conditions by the bite of the mosquito. Four cases were produced by blood from a yellow fever patient. No cases were produced by fomites, but the non-immunes exposed to fomites were later infected by the mosquito.

Before Walter Reed left Cuba and as the end of December, 1900, drew near, when he was drawing up his final report, it must have given him great satisfaction to review his orders. The Surgeon General's charge to the Commission on May 24, 1900, was: "You will naturally give special attention to the etiology and the prevention of yellow fever". This was the challenge. Dr. Reed's reply of January 2, 1901, was: "The mosquito serves as the intermediate host of yellow fever".

After 50 years the magnitude of this work is still impressive, but we may be inclined to forget the logic and the thoroughness of the man who directed the work and who ultimately achieved the solution to a disease problem which was costing one of the higest tolls in human lives and wreaking economical havoc to the states and countries of the tropical zones. There is no doubt that had yellow fever not been brought under control, the Panama Canal would not have become a reality; two previous attempts to build the Canal failed because of the scourge of this disease.

In this day and age when it is not unusual for sums in excess of one million dollars to be appropriated for research in one specific disease, one cannot help but be impressed with the fact that the mystery of the cause and mode of transmission of yellow fever was solved for a sum slightly in excess of $18,000.

As time goes on we are perhaps inclined to forget the epidemiological procedures and the steps of the investigation that gave us a solution to this disease problem. Before Dr. Reed started to work, he most carefully reviewed all of the existing information and mis-information on the disease.

We can best recall the steps of the investigation by reviewing his report to the Pan-American Congress in 1901. In this brief report he reviewed his work as follows:

"1. The mosquito, S. fasciatus, serves as the intermediate host for the parasite of yellow fever.
2. Yellow fever is transmitted to the non-immune individual by means of the bite of the mosquito that has previously fed on the blood of those sick of the disease.
3. An interval of about 12 days or more after contamination appears to be necessary before

*Dr. Cooke was a native Virginian and only recently retired as health officer of the Lexington-Rockbridge County Health Department. He was one of the two surviving members of the experiment. The other is Mr. James Hanberry, of Orangeburg, South Carolina. Dr. Cooke died Oct. 27, 1952.

the mosquito is capable of conveying the disease.

4. The bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack.
5. Yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease.
6. An attack of yellow fever, produced by the bite of the mosquito, confers immunity against subsequent injection of the blood of an individual suffering from the non-experimental form of the disease.
7. The period of incubation in 13 cases of experimental yellow fever has varied from forty-one hours to 5 days and 17 hours.
8. Yellow fever is not conveyed by fomites, and, hence, disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease is unnecessary.
9. A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitoes capable of conveying the parasite of this disease.
10. The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitoes and the protection of the sick against the bites of these insects.
11. While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered."

In the subsequent search for the cause of yellow fever, the idea of a filterable virus was suggested to Reed in the summer of 1901 by Professor William H. Welch of the Johns Hokpins University, and Dr. Carroll was dispatched to Cuba that same summer to test this theory. His experiments were eminently successful, demonstrating that the blood of yellow fever patients, after passing through a Berkefeld filter, is still capable of conveying the disease when injected into a non-immune.

The practical effect of Walter Reed's work may be summarized in his own words, "I may say that counting from the day when they (the new sanitary regulations) were put into force, *viz.*, February 15, 1901, Havana was freed from yellow fever within ninety days; so that from May 7 to July 1, a period of 54 days, no cases occurred". Between the years 1853 and 1900 there had been recorded in the City of Havana 35,952 deaths from yellow fever.

Then, just before the dawn of the new year, 1901, a year before his death, these words were penned to his wife, "that I might be permitted in some way or at some time to do something to alleviate human suffering has been granted". A dedication—a prayer come true.

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PR Tip of the Month

Dr. Michael Shea of New Haven, Connecticut offers this public relations suggestion. "When I receive a check from Connecticut Medical Service or some other voluntary health insurance agency, *I send a receipt to the patient thanking both the agency and the patient for the payment.*" Dr. Shea considers this friendly gesture an inexpensive, but worthwhile PR practice. (THE PR DOCTOR) June 6, 1952

CLINICOPATHOLOGICAL CONFERENCE

Presented at the annual meeting of The Medical Society of Virginia,
in Richmond, October 1, 1952.

PROTOCOL OF CASE FROM THE UNIVERSITY OF VIRGINIA
Clinician: EDWIN L. KENDIG, JR., M.D.
Pathologist: J. F. A. MCMANNUS, M.D.

The patient was a 10½ year old white female.

CC: Headaches and joint pains, off and on for several years.

PI: At age 6 years she suffered with headache, fever, and pain in the abdomen, ankles and wrists. She was treated (but not examined) with "pain pills" and convalesced very slowly, never seeming to get entirely well.

At age 8 years she had a similar episode and was in bed three weeks.

One year before the present admission, at age 9½ years, she had a third similar illness and was in the hospital for one month. Generalized edema, pyuria, and enlargement of the heart were noted.

Since that time, a period of ten months, she had been on greatly reduced activity at home, with occasional paroxysmal nocturnal dyspnea and slight orthopnea. Five weeks before admission she again had fever, swollen and tender hands and feet, and pain in her chest and abdomen. In another hospital she was treated with penicillin, blood transfusions, and cortisone. She responded well at first, but later developed an upper respiratory infection and a joint flare-up. The cortisone was increased. She became quite dyspneic and was digitalized and given oxygen for several days. (The fact of digitalization was not known until 4-5 days after this admission.)

OTHER HISTORY: Insignificant. An uncle and a brother had diabetes.

PE: Examination showed a well developed and nourished young white girl in no particular distress, but seeming chronically ill. Temperature 101 (p.o.), pulse 130, respirations 20, blood pressure 110/50. Weight 57 lbs. The face appeared puffy. The cardiac apex was in the mid-axillary line in the 6th space. There was no pulse deficit. P_2 was greater than A_2. A Grade IV harsh systolic murmur was heard over the left precordium, loudest at the apex and transmitted to the axilla and neck. A soft diastolic murmur was heard at the apex and in the back near the vertebral column. The liver edge was palpable 1-2 cm. below the costal margin. There was slight tenderness in both upper quadrants and both flanks. The ankles and wrists seemed slightly tender. No definite edema was noted.

LABORATORY STUDY: The urine was alkaline with a specific gravity of 1.014; otherwise it was normal. The hemoglobin was 12.5 grams, the red cell count 4,000,000, and the white cells 11,200, with 5 bands, 55 segs., 30 lymphs., 8 monos., 1 eosinophil, and 1 basophil. The corrected sedimentation rate was 22.5. The hematocrit was 34%. The tuberculin test was negative in forty-eight hours. Five blood cultures were sterile. A urine culture showed a hemolytic staphylococcus and culture of the throat grew micrococci and streptococcus viridans. The electrocardiogram showed sinus tachycardia, a vertical heart, and left ventricular strain with a suggestion of left ventricular hypertrophy. By x-ray the heart was greatly enlarged with a cardio-thoracic ratio of 66%. A faint left auricular shadow was visible through the main heart shadow. The lungs showed early perihilar congestion.

COURSE IN THE HOSPITAL: The temperature varied from 100-103 with the pulse 100-130. The blood pressure remained stable. She was put on a low-salt diet and given thiomerin, 1 cc., without diuresis. On the third day she began complaining of severe chest pain. A pericardial friction rub was then heard to the left of the sternum. She was given aspirin, .65 grams five times a day. The fever promptly dropped to normal and the patient felt much better. For the rest of her life the temperature was about 100° but the pulse continued to zigzag between 80 and 140. Save for slight nausea the child did well until the evening of the 10th day when she complained of dyspnea. This grew worse through the night and the next morning her pulse was 126 and respirations 34. She was put in an oxygen tent and given 0.2 mg. digitoxin and 25 mg. demerol. That night she became more restless and dyspneic, despite sedation. She was given an aminophylline

suppository and more thiomerin. At midnight she became cyanotic and was coughing up blood; she was given 0.2 mg. digitoxin again. She did not improve, despite 6 mg. morphine; the dyspnea became worse, she became unconscious, and died at 4:00 A. M. on the 12th hospital day.

Discussion by Dr. Edwin L. Kendig, Jr.

In brief, this is the story of a 10½ year old white girl who, beginning at 6 years of age, had 3 episodes of headache, fever and pain in the abdomen, ankles and wrists. With the last recurrence, one year prior to admission, she had generalized edema, pyuria and an enlarged heart. She never completely recovered and 5 weeks before the present admission she had another episode, similar to the first two though apparently more severe, requiring hospitalization and treatment with penicillin, blood transfusions, cortisone and finally digitalization.

At the time of this admission there was slight fever (101°), rapid pulse (130), some tenderness of ankles and wrists and of both flanks and upper quadrants. The liver edge was palpable 1-2 cm. below the costal margin. The heart was generally enlarged and there was a harsh grade IV systolic murmur over the left precordium, loudest at the apex and a soft diastolic murmur at the apex and at the back near the vertebral column. X-ray showed gross cardiac enlargement with faint left auricular shadow visible through the main heart shadow and EKG showed left ventricular strain with suggestion of left ventricular hypertrophy.

The hospital course was steadily downhill. The patient developed severe chest pain, relieved by aspirin, and a pericardial friction rub on the third day. She became cyanotic and coughed up blood 4 hours before she finally died on the 12th hospital day.

Let us consider the protocol. The story is almost typical of rheumatic fever. The 10½ year old white girl had her first episode at 6 years of age. This is one of the age periods during which rheumatic fever is most common. The described illness, consisting of headache, fever, pain in the abdomen, ankles and wrists, is typical of an attack of rheumatic fever. The protocol does not tell how long the first acute phase of the illness lasted, but it does say that she never got completely well until the second acute phase, lasting 3 weeks, occurred. One of the most typical points about rheumatic fever is that the patient so affected may never seem completely well and an erythrocyte sedimentation rate taken during one of the periods of supposed remission will be elevated, indicating activity of the disease. There was probably cardiac involvement long before the third attack, but at least by that time it had become unmistakably apparent and the presence of edema indicates that the heart had begun to fail. No mention is made of the type or degree of cardiac enlargement and no mention is also made as to the presence or absence of cardiac murmurs. One may readily suppose that if rheumatic fever was present, rheumatic heart disease had made its appearance well before this time and mitral regurgitation was probably present.

Pyuria, itself, is not generally considered to be part of the rheumatic fever syndrome and most observers feel that its frequent occurrence at time of acute episodes in children with rheumatic fever is a result of the same acute respiratory infection which has activated the rheumatic process.

When the fourth and final episode of the disease occurred 5 weeks before hospital admission at the University of Virginia Hospital, the same typical syndrome was encountered. This time cortisone was used and appeared to be effective until an acute upper respiratory infection caused a joint flareup necessitating increase in cortisone dosage. It is well recognized that cortisone has been a useful adjunct in the treatment of the acute phase of rheumatic fever. Whether or not its use does anything to shorten the course or lessen the severity of the infection is, as yet unanswered and opinion is divided on this point. Cortisone does, however, seem to aid considerably in making an acute attack less severe. Further, it is well recognized that acute respiratory infections tend to activate rheumatic fever.

The heart murmurs described seem to fit those of mitral insufficiency and either mitral roughening or mitral stenosis, the most probable valvular lesions in childhood. If these same murmurs were present in an adult, one would be certain that mitral stenosis existed. In children, however, a diastolic murmur may be present for some time, yet autopsy will reveal no stenosis of the mitral valve. In this case we know little of the time element. We only know that cardiac disease did exist one year prior to admission.

It seems more likely that true mitral stenosis did not yet exist.

The case thus summarized so closely fits the clinical picture of rheumatic fever that one is inclined to be more than a little suspicious. Cases chosen for a C.P.C. are seldom clearcut and I doubt that this is an exception. Let us, then, probe all other possibilities.

First, there are many diseases suggested by the clinical picture which one may dismiss with relative ease. They are: septic arthritis, rheumatoid arthritis, acute leukemia, Schönlein's purpura, Salmonella infections, Haverhill fever, Still's disease, hemophilia, scurvy, malignant disease of the joints, lead poisoning, Felty's syndrome, coccidioidomycosis, sickle cell anemia, erythema nodosum, dermatomyositis and more. There are others which merit more consideration.

Brucellosis cannot be easily discarded. Arthritis is one of the most common complications of both the acute and chronic forms of the disease. Pyuria may also occur. Endocarditis may result from brucella infection superimposed on a previously damaged heart valve. Pericarditis is a possible complication. However, no mention is made of serum agglutinations and I assume that no pertinent data has been withheld. Nor can one overlook the 5 negative blood cultures.

Lues must always be considered and is a disease which is capable of producing the valvular heart lesions. The diagnostic necessity, a Wassermann test, is not mentioned in the protocol. However, no stigmata of congenital lues are described and the possibility of acquired syphilis prior to six years of age is unlikely. Further, joint involvement occurs more often in the knees and the cardiac murmurs described are not the ones usually associated with syphilis.

The possibility that congenital heart disease may be a basis for this patient's illness takes two forms. There must be either complicating rheumatic fever or subacute bacterial endocarditis. In either event, the congenital lesion must be one of the noncyanotic or potentially cyanotic group. The possibilities seem to be (1) interatrial septal defect, (2) interventricular septal defect and (3) patent ductus arteriosus.

Interatrial septal defect may be quickly dismissed since in this condition roentgenogram reveals increased size of the right ventricle and atrium and a prominent pulmonary artery and if the electrocardiogram shows anything at all, it is a tendency toward right axis deviation, with sometimes higher than normal P waves. It should be noted that the described murmurs may be found in this condition if an associated mitral valvulitis (Lutembacher syndrome) exists.

In interventricular septal defect, the harsh systolic murmur is heard in the third or fourth intercostal spaces and is transmitted for only a short distance. There is no mention of thrill in the protocol, but a systolic thrill is characteristically present over the same area. Roentgenograms produce no typical lesion and electrocardiograms are normal unless the conduction pathways through the ventricles have been interrupted by the septal defect.

It seems unlikely that bacterial endocarditis would be present for four and one-half years before precipitating a fatal outcome. Therefore, if this congenital defect was present the patient must also have had subsequent rheumatic fever.

Patent ductus arteriosus is the other possibility among the congenital heart lesions. Here, the systemic blood pressure is affected by drainage of blood from the aorta into the ductus and pulmonary circulation. Systolic readings are generally elevated and diastolic readings reduced. The systolic thrill which is often present will again be omitted from discussion since none is mentioned in the protocol. The typical murmur is machinery-like, persisting throughout both systole and diastole, but there may be only a systolic murmur. The systolic murmur is heard over the whole precordium and is loudest over the base. The diastolic murmur is softer and is audible only at the upper part of the left chest, maximal at the second left interspace. On roentgenogram the cardiac shadows may be normal or there may be enlargement of the pulmonary artery. If the defect is large, the left ventricle may be increased in size. Electrocardiograms are usually normal.

This condition is particularly susceptible to subacute bacterial endocarditis, which usually appears first at the pulmonary end of the ductus but again it is unlikely that bacterial endocarditis would exist for such a long period. We must again assume that there has been intercurrent rheumatic fever.

Once hospitalization takes place the question of subacute bacterial endocarditis is raised anew. Differentiation between rheumatic fever and subacute bacterial endocarditis is not always easy. There are, however, several points of difference. In subacute bacterial endocarditis the significant points to remember are petechiae, splenic enlargement, red blood cells in the urine, clubbing of the fingers, painful fingertips, emboli and a positive blood culture. None of these occur in rheumatic fever except emboli, which may be present when bits of sterile mural thrombi, generally present in the auricles, become dislodged. None of these was present in this case unless pulmonary embolus occurred as a terminal event. On the other hand, this patient developed a pericardial friction rub and pericarditis is commonly seen with rheumatic infections and very rarely with bacterial endocarditis. Relief of chest pain with aspirin may or may not have been significant.

Two other conditions must be considered, disseminated lupus erythematosus and periarteritis nodosa.

Lupus erythematosus presents the clinical manifestation of irregular fever with tendency to remissions of variable duration (even years) and tendency to recurrent involvement of synovial and serous membranes (polyarthritis, pericarditis, etc.). There is no depression of the bone marrow function, but if one is to hypothesize the Libman-Sacks type of endocarditis there is probably a secondary infection present to account for the leukocytosis. The disease occurs preponderantly in young females but the youngest recorded case was 7 years old. Finally, there is no kidney involvement and there are no skin manifestations. In short, this case presents a clinical picture suggestive of disseminated lupus erythematosus, but the age of the patient at onset, leukocytosis instead of leukopenia, absence of skin lesions and of nephritic involvement make it an unlikely diagnosis.

Periarteritis nodosa is capable of producing the picture heretofore described with fever, abdominal pain, pain in the extremities, leukocytosis with predominance of polymorphonuclear cells and tachycardia out of proportion to the fever. Cortisone will often give temporary relief at the time of an acute attack. It is true that there is no eosinophilia unless one follows the dictum that the presence of even one eosinophile in the presence of leukocytosis is abnormal. Further, there is no sign of nephritis, no hypertension and no nodules. However, periarteritis nodosa, like syphilis, is a great imitator and can follow almost any pattern. It is also true that periarteritis nodosa is often found concurrently with rheumatic fever. If one is grasping at straws in an effort to seek out something other than the apparent diagnosis, this seems to be the most logical variation.

Discussion of this case would not be complete unless some further comment is made on the patient's terminal illness. The enlarged liver, nausea, restlessness, dyspnea, cyanosis, hemoptysis, coma and lethal exodus, produce a picture which closely simulates myocardial failure. Since bacterial endocarditis appears to be unlikely, the other possibility is that a pulmonary infarct has occurred from a dislodged sterile thrombus. In favor of this thesis is the relatively acute course of the final two days of life, during which the patient suddenly began to grow worse with dyspnea, rapid pulse and respiration, requiring oxygen. then cyanosis and hemoptysis just before the fatal outcome.

My diagnosis then is:

Rheumatic Fever
Rheumatic Pancarditis
Mitral Insufficiency
Mitral Roughening (Stenosis ?)
Pericarditis
Congestive Heart Failure
Pulmonary Infarction

Finally, it must be said that a clinician in charge of a patient presenting the clinical picture outlined would seem to be foolhardy not to treat the patient as a case of rheumatic fever. Although straightforward cases are unlikely in a C.P.C., there is little real evidence of any other disease entity.

CORRESPONDENCE

Medical Economics of a By-gone Day

In this day and age when too many of the younger generation of physicians seem imbued with a "get-rich-quick" urge; or "soak 'em for all the traffic will bear" policy, it may be of interest to relate briefly the "medical economics" of a distinguished physician long since gathered unto his forefathers and resting in eternal sleep in that hallowed ground of the Southland, Hollywood Cemetery in Richmond, Virginia.

I speak of Lawrence Waring, M.D. of Richmond, Virginia. Sprung from an old family of colonial Virginia, the Warings of Essex County, Virginia, Doctor Waring was in medical practice in Richmond in the days immediately preceding the Civil War, or War of the Rebellion, as some prefer to term it. As with all true Southerners old enough to shoulder a musket, Doctor Waring volunteered for service in the Confederate States Army immediately upon the secession of his native Virginia from the Union. Always somewhat eccentric, Doctor Waring did not take kindly to the restrictions of military service, or the to-him-arbitrary orders of some of his immediate superiors in medical service. Thus from this viewpoint his military career was not as outstanding as that of his kinsman, William Latane, M.D., Captain, Ninth Virginia Calvary, whose heroic death at the head of his troop, the only casualty of Stuart's famous ride around McClellan, has been immortalized in Southern annals by the painting and the poem "The Burial of Latane."

However, his superiors recognized that here was a man whose forte was medicine, not saber and musket strife; so he was taken out of immediate military service and placed in charge of a large military hospital in Richmond, where his ability and medical talents enabled him to render outstanding service to the cause of the Confederacy for the balance of the war.

After termination of the war with Lee's surrender at Appomattox, Doctor Waring resumed his medical practice in the city of Richmond. Fittingly, perhaps, his kinsmen, John L. Waring (my father) surrendered at Appomattox as a 14 year old boy private in the Confederate infantry.

It is said that no night was too dark or cold or stormy but that Doctor Waring was ready for all calls for his services from rich or poor, black or white. Compensation for his services was a minor matter for this modest and kindly Disciple of the Healing Art. While his patients numbered many of the wealthiest and most prominent citizens of the city, his practice naturally perhaps gravitated towards the poorer sections of the city, where the poor knew he would attend them whenever called whether they were able to compensate him in some measure for his services or not. As the years wore on, the good doctor was a familiar sight on the streets of Richmond, but as a financial success for those days he was more or less of a total loss: no footman and spanking team of bays for him; no clothes of the latest cut and costliest weave, but usually clothing that became threadbare before discarded. When his wealthy friends and patients saw that he needed a new suit or shoes or overcoat, they escorted him into the finest tailoring establishment and purchased a new suit for him of the finest cloth. When his faithful old horse and buggy became worn out with the travels of the day, in due course a new horse and buggy was hitched in front of his office and the old rig was seen no more. And so time went on, and it took its toll of the aging doctor known by sight and reputation to all of Richmond.

Finally, he was taken down with an illness which his long experience told him would be fatal. Then he called his faithful colored servant and directed him to gather up and bring to his bedside all of his books and records. These, one and all, he directed to be placed on the open fire in his sick room and burned to ashes, explaining to his surprised servitor that when he was gone he wanted no one to be trying to collect long past-due bills from anyone, rich or poor; and that with his books and records all burned, no one would know whom he had attended professionally.

And so the good doctor was gathered unto his fathers. To this day the name of Lawrence Waring, M.D. is known and remembered in the city of Richmond as "the Doctor of the Poor"; and it is said that his funeral was one of the largest attended in the

history of the city; rich and poor, black and white; in manifest grief at passing of their unfailing friend and physician.

Today, on a commanding knoll in Hollywood cemetery, "the graveyard of the South" in Richmond, close by the last resting place of the immortal General J. E. B. Stuart, C.S.A., stands a simple, tall obelisk of granite pointing ever skyward. The simple inscription reads "Lawrence Waring, M.D.", with date of his birth and death; and below that these words:

> "Erected by the Poor of Richmond in grateful memory."

Into that monument went the pennies and the nickels and the dimes of the poor people of Richmond; all contributing whatever amount they could rake up.

And so, while Lawrence Waring, M.D. was a total failure judged by present-day economic standards, the fact remains that as a Man and a Physician he left a mark for all time that many a young physician of today can shoot at and ponder?

J. B. H. Waring, M.D.
Wilmington, Ohio

Editor's Note. Lawrence Roane Waring, the son of Horace Waring, was born February 21, 1826, and was educated at Rumford Academy, Richmond College, and the University of Virginia, (M.D. 1845). He was a bachelor and lived in the old Ballard Hotel. He died November 4, 1869. Policemen were needed to manage the great crowd at his funeral and mass was said at two Catholic churches, although the Doctor was a protestant. He is buried in Hollywood on the same circle with President Monroe, President Tyler, and Commodore Maury. The inscription on his monument reads

"Dr. Lawrence Roane Waring
Who
Devoted His Life
to the Relief of the Suffering Poor
Died November 4, 1869
in the 43, Year
of His Age.

This Monument
is Erected by Grateful
and Loving Friends."



Courtesy of Miss Anne Ryland

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.
Commissioner, Department of Mental Hygiene and Hospitals

Better Mental Health Through Teacher Education*

The great majority of the future population of our mental hospitals and penal institutions, and the great majority of all the people who in the future will have difficulty in adjusting themselves to conditions of life, are now enrolled in the public school.

The very fact that the great majority of all children in our culture pass through the public schools, places upon the school a great responsibility and at the same time provides a great opportunity for influencing the total life of the masses of our population.

Almost a hundred years ago, Herbert Spencer said, "The purpose of education is to prepare for complete living". When we review the literature of our own Virginia State Department of Education we find numerous statements concerning the duties of teachers in regard to the development of sound mental health. For example, such statements as these are found: "The aim of the public school system is to provide the opportunity for the greatest possible development of the child as an individual and as a member of society." "It may be said that an adequate program of education should provide experiences for physical, mental, emotional, and social development." Parents want their children to have "school experiences which will develop wholesome attitudes as a basis for sound mental health." "Everybody knows that the first few years in the elementary school are tremendously important for the child. Not so many people know how much understanding and professional skill is needed by teachers who want children to have the best possible start in school." "The teacher has the responsibility for understanding the characteristics of children with whom she works and the environment from which they come. Children on entering school often have a feeling of insecurity, feel the loss of mother, want to be loved, and to be praised regardless of their success. A teacher's program must include conferences with parents, and individual observation of children. Her interest and observations must be as keen and colored with curiosity as those of the child."

A good teacher is interested in the welfare of children who come to her each day. Let us say that she has forty of them. According to statistics and estimates made by statisticians, on the average, out of every forty children in a group, four will need psychiatric help sometime during their lives, and two will spend some time in a mental hospital. Two others are headed toward a social and emotional adjustment so poor that they will not be able to live normal lives but will depend upon the care of family and friends. One will commit a felony and serve a penitentiary term, and two others of the forty will be prepared so meagerly by their school experiences for life in the modern world that they will never master the simplest mechanics of their environment and will end their days as derelicts.

When we speak of numbers in the aggregate, it sometimes does not appeal directly to the teacher. But when these figures are broken down to apply to the teacher's own class, they take on meaning. When she looks into these forty faces and realizes the tragedy and heartbreak that may await many of them, a sense of fear engulfs her, and she aks herself, "Is there nothing I can do to help these children." We believe that modern psychology and education give a good deal of hope, that there is something that she can do to prevent the tragedy. These tragedies are not fated; they are not absolutes of nature; they arise from causes which are known and which are capable of being handled. Probably not more than one of each of the forty children is born into the world to be mentally incompetent and none is born to be a criminal. Society teaches them derangement and crime. If teachers can be trained to detect the earliest symptoms, and the procedures through which, if taken in time, they may be prevented, we will have made rapid strides in promoting good mental health in classrooms. The public school has a great opportunity, and, in the thinking of many people, has a definite responsibility toward helping children to grow up into normal and acceptable ways

*Article by Minor Wine Thomas, Ph.D., Mountain Empire Guidance Center, Radford, Virginia, and professor of Psychology, Radford College.

of behavior. If a teacher can be taught to recognize the significant symptoms of emotional disorders while the child is yet young, and if necessary seek advice and counseling from capable professional people, a great deal of later difficulties might be prevented.

Perhaps the first hurdle which must be taken by any teacher who wishes to champion the cause of mental health is the inclination to regard mental illness as a disgrace. This attitude is old and rooted in history and even despite the great strides that have been made in psychology and psychiatry, there is still, in the minds of the majority of people, the tendency to regard mental illness with horror and repulsion and think of it as something to be hidden away in closets and spoken of only in whispers. Little can be done in the task of identifying and correcting early cases of mental disorders so long as this attitude persists. We must convince the public, and the teacher must clearly understand, that a so-called "insane" person is just a sick person and not a person possessed of an evil spirit. No single factor retards the process of better mental health more than does this feeling that the disturbed individual is somehow monstrous and a shame to the family. For example, the average parent appreciates being advised by the teacher that his child has a physical defect, such as bad tonsils or faulty vision, and he usually takes steps to correct the condition. But let this same teacher tell this same parent that his child shows some signs of incipient neurosis, and his reaction will be one of indignant denial and a strenuous effort to prove the teacher entirely wrong.

Another erroneous idea which mu t be combated is that mental illness is something that attacks the person suddenly or that one "abruptly goes crazy". It is well recognized by psychiatrists that almost every case of mental disturbance has behind it a long history, usually beginning in early childhood. The important thing that is necessary here is for the teacher to be able to detect the symptoms in children long before they reach the danger point. Many major problems of adjustment, crime, neurosis or even psychosis, reach back into early childhood or infancy. There are ofttimes little pecularities about which parents are apt to say, "Oh, it's all right, Bill will grow out of that." The truth is generally the reverse. Without help and guidance, Bill will tend to grow into it rather than grow out of it. The bad habits of childhood, the abnormal reactions, the asocial attitudes do not correct themselves with the mere passage of time. Instead, they tend to become more entrenched with every passing day until as adults a large per cent of the population fails to make adequate adjustment and suffers unhappiness, frustration and defeat in their personal, social, and economic lives. The teacher must face these facts, and, in the majority of cases, the battle for normal mental adjustment is lost or won before the end of school days.

A teacher, to measure up to her responsibility and opportunity for developing this wholesome life of the child, needs to have a great deal of definite teaching and training in her preparation program. In general, the school does an effective job in teaching the children to read and write and to know something of the other academic subjects. That is good. The school is interested in such aspects of living as the physical health of the children, recreation, and citizenship. The school has made wonderful progress in its fight against illiteracy, but the greatest cause of unhappiness, inefficiency, and dependency today is not illiteracy. Most of those people who as adults are unable to take care of themselves and are dependent upon others, know how to read and write pretty well and are pretty well educated by the traditional curriculum. However, while they were learning reading and writing and the other academic subjects, they failed to learn how to live—how to live with other people, how to get along efficiently, cooperatively, and to adjust themselves to the facts and conditions of life as they exist.

It is not proposed that the teacher training program be extended to the point where a teacher would become a professionally trained psychologist. On the other hand, a reasonably intelligent man or woman can be taught during his teacher preparation program to recognize some of the symptoms of poorly adjusted children, and can refer these to professionally trained people. A teacher training program should include a reasonable amount of time and attention given to a recognition of unhealthy symptoms in childhood. If the teacher can be led to see that many of the problems she faces as a teacher are symptoms of conflict within the child, and if she can be taught to seek guidance and professional counseling when she does not feel competent herself to deal with the situation, we will have gone a long way toward developing sound mental health.

If the public schools of Virginia are to really "provide the opportunity for the greatest possible development of the child as an individual and as a member of society", and have an adequate program to "provide experiences for physical, mental, emotional and social development" and "to develop wholesome attitudes as a basis for sound mental health", they must be interested in helping children to grow into well balanced individuals, to be efficient in their handling and dealing with their own problems and the problems of dealing with other people.

The mentally healthy adult attempts to solve his problems in a frank and straightforward manner. He tries to understand the facts of life and then face them squarely as they are, no matter how disagreeable or forbidding they may be. He tries to attack his problem directly instead of side stepping it or running away from it. Before making a decision he tries to size up the whole situation and to evaluate the component parts so as to be able to react to the whole situation with due consideration of all the important relevant facts and circumstances.

The outcome, in the case of most persons who have thus attacked the vicissitudes and exigencies of life, is a reasonably satisfactory adjustment to adulthood. Habits and techniques of facing the facts of life in such a manner *must be learned,* and the time to begin such learnings is in childhood. It is in facilitating the learning of such habits that we think the school can play a vital and important part. Such habits must be practiced consistently over a long period of time so as to become deeply and permanently ingrained in the personality.

In contrast with the well-balanced, efficient, mentally healthy adult, is the maladjusted or inefficient individual. Instead of attacking his problems in a forthright, objective manner, he resorts to a great variety of subterfuges, tricks and blinds for concealing his failures, shortcomings or dissatisfactions, or for dodging reality and retreating from the ugly facts of life into an illusion of security. The numerous response mechanisms that unadjusted persons employ for solving their problems, are the means for cloaking their inadequacies; for disguising their feelings of evading their responsibilities and for finding security and satisfaction in deceptive compromise.

From the mental health point of view, response mechanisms such as these, when frequently used as a means of escape from difficulty, or as a means of solving shortcomings, are inimical to the preservation of mental efficiency and often disruptive mechanisms may generate a host of mental conflicts and difficulties which may lead to further dissatisfactions, mental distortion and sometimes to neurosis and even psychosis.

It is rather easy to see these inefficient traits in adults. The early beginnings are much harder to recognize in the child. These behavior habits do not suddenly come into being "full blown" in the adult. They usually develop out of habits begun in childhood, which go unnoticed or unrecognized until much later in life—probably too late to do much about it. The great opportunity and challenge of the public school is to recognize the early symptoms in the child and to help him develop more efficient habits, more wholesome attitudes, and more effective techniques of facing and resolving his daily problems.

PUBLIC HEALTH

Mack I. Shanholtz, M.D.
Virginia State Health Commissioner

Meeting of the Middle Atlantic States Conference on Rural Health Services

In the interest of better community health services, The Governor of Virginia invited the Governors of North Carolina, West Virginia, Maryland, and the District of Columbia, to designate representatives of their respective states to attend a conference, to be held in Virginia, for the purpose of discussing ways and means of meeting and solving various problems in the field of public health. Such a conference was heartily approved. The Virginia Council on Health and Medical Care sponsored the Conference, which was held in Roanoke, Virginia, November 16-18, and it was attended by many outstanding leaders interested in better health and civic improvements.

Governor Battle was represented by Lieutenant-Governor A. E. S. Stephens. Among those attending were: The State Health Commissioners of North Carolina, Maryland, District of Columbia, and Virginia; representatives of the U. S. Public Health Service, state and local health departments, state and local public welfare agencies, state medical societies, state dental associations, state and local mental hygiene departments and societies, voluntary health organizations, Parent-Teacher Associations, farm groups, hospital and nursing associations, educational institutions and many other leading citizens of the respective states interested in community life.

Some of the problems discussed in study groups and conclusions reached are:

Problem: What Should Be the Functions and Methods of Practice of Public Health?

Conclusions: 1. An essential of a good health program is the maintenance of cooperative relationships between health directors and private physicians through an exchange of information and a better understanding of the rule of each by the other. More private physicians should be brought into active community public health participation. Any major public health program should be discussed with the state medical society before it is launched before the public.

2. The most effective method of securing adequate financial support and physical equipment for a health department is through an aroused citizenry. Community health councils have proved most effective.

3. Existing services of health departments should be constantly re-evaluated and intelligently reviewed so that any existing unnecessary service can be eliminated.

4. The role of the health department in providing medical care varies in the several states. In Maryland, the health department acts as administrator of a program promoted by the State Medical Society, with services made available through private physicians. This program gives medical and home nursing care for the indigent and the medically indigent.

Problem: How Should Citizens, Official Agencies, Professional Groups, and Voluntary Agencies Work Together Smoothly?

Conclusions: It was pointed out that in many of our communities leadership devolves upon a small group of individuals (possibly 12%) who, because they are called on so frequently, are spread thin and unable to give the service which a new venture needs. There is potential leadership in many groups which should be utilized in promoting a new community council. This leadership will be found not only in the organizations engaged in some form of health work but in all types of groups: Professional groups, labor organizations, churches and others.

Problem: How Do We Get Community Wide Health Education?

Conclusions: 1. There is need for schools to assume major responsibility for the formal instruction of the school age child in health information and the development of proper health habits and attitudes.

2. The school, through its teachers, should recognize its responsibility in creating a healthful physical, mental and moral environment in the classroom for the child.

3. A broader recognition is needed of the fact that health is the first objective of education and that each teacher is a health teacher.

4. School personnel should have knowledge of available health services in the community.

5. There is need for a re-evaluation of content material in health education courses taught in institutions training teachers.

Problem: HOW SHOULD FAMILIES, PRIVATE PRACTITIONERS, SCHOOLS AND HEALTH AGENCIES PROVIDE HEALTH SERVICES TO THE SCHOOL CHILD?

Conclusions: It was the consensus of the group that providing health services to school age children was the primary responsibility of the parents. It was a responsibility of the public agencies to assist the families when they were unable to realize their responsibilities or to assume them.

We need to recognize the role of the private physician, the role of the health department and the role of other community agencies in providing health services to school age children, again recognizing that basic responsibility of securing the needed services rests with the family.

Problem: HOW DO COMMUNITIES WORK TOGETHER TO PROVIDE SERVICES TO THE AGING AND CHRONICALLY ILL?

Conclusions: 1. It was agreed that the problems connected with aging are real, that they are increasing in intensity and more and more demand a solution. At present no sufficient answer has been found to the recreational, social and economic requirements of the aging or to the medical needs of the chronically ill.

As to the role of the health department in chronic disease case finding, it was concluded that this role is supplemental to agreements made with local medical societies.

Regarding the use to be made of multiphasic examinations, the group felt that it had no sufficient data upon which to offer conclusions.

Problem: WHAT ARE THE PROBLEMS OF MEDICAL CARE AND INSURANCE?

Dr. Robert H. Riley, Maryland Commissioner of Health, outlined for the group the State Hospital Division's program, which is handled through the Maryland State Health Department. All cases are approved by the State Welfare Board. This department takes care of indigents and medically indigents, paying full cost for approved cases.

Dr. Brewer, President of the Medical Society of North Carolina, described the present program in North Carolina, outlining the inadequacies of the program at the state level, but emphasizing that many of the counties had programs which, added to their state payment, constituted adequate payment to hospitals for services rendered.

Dr. W. T. Sanger outlined the equalization program now being used in the State of Virginia.

THE CONSENSUS OF THE GROUP WAS:

a. That by and large, the care of the indigents is a responsibility of governmental agencies through tax sources.

b. Medical indigents should be enrolled in Blue Cross plans and medical care plans insofar as possible.

Some of the problems related to the care of the indigent might be solved by physicians working on a voluntary basis in clinics and health centers. It is felt that greater service can be rendered if the clinics and health centers, wherever possible, are connected directly with hospitals.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Nov. 1952	Nov. 1951	Jan.-Nov. 1952	Jan.-Nov. 1951
Brucellosis	9	5	43	76
Diarrhea & Dysentery	120	252	2,287	2,947
Diphtheria	36	41	149	167
Hepatitis	162	2	779	25
Measles	69	153	15,404	13,993
Meningitis (Meningococcic)	21	9	184	111
Poliomyelitis	44	16	669	251
Rocky Mt. Spotted Fever	3	1	432	60
Scarlet Fever	130	111	725	901
Tularemia	1	0	42	35
Typhoid & Paratyphoid	10	11	89	63
Rabies in Animals	32	15	432	194

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Albemarle Hotel Building, Charlottesville, Virginia

Reprints of this and preceding Bulletins may be obtained from this office

January 1, 1953

Case Reports

A 52 year old womon, referred to o Tumor Clinic, reported thot nine months previously she hod suffered on ottock of "piles," occomponied by weokness, pain on bowel movement, ond passage of smoll omounts of bright red blood with each stool. She sow her physicion ot once. He inspected the anus, ogreed thot she did have "piles," and prescribed o solve. The bleeding continued, the weokness progressed, the bowel movements become difficult, ond she resorted to the regulor use of loxotives. With the onset of diarrheo ond torry stools three weeks previously, the physicion hod performed o digitol rectol exominotion ond found tumor mosses studding the rectum os high os he could reoch. On voginol exominotion, he found o frozen pelvis. He referred the patient to o Tumor Clinic. The biopsy report wos corcinoma of the rectum, a colostomy was done, ond the immediote response to polliotive X-roy therapy hos been good.

A 59 yeor old mon wos admitted to o hospitol, comploining thot for seven months he hod been suffering with progressive fotigue, nervousness, ond moderote weight loss. When he first sow his family physicion, soon after the onset of fotigue, he had no other symptoms. Exominotion, including digitol rectol, wos negotive. He took more rest ond tried to worry less, but ofter o month of this regime, he wos unimproved. He wos referred to on internist, who could find no orgonic lesion, and ploced him on o stricter regime. But three months loter, still no better, there wos on onset of olternoting constipotion and diorrheo. He returned to the internist, who reexomined him and hod onother physician exomine him, too. Again exominotion, including digitol rectal, wos negotive. The potient wos next referred to o rodiologist who, on borium enemo, found o smoll defect in the coecum which he interpreted os on odhesion resulting from on oppendectomy some yeors before. After six weeks more of no improvement, the patient became very dissotisfied with his lock of progress, and sought admission ot the hospitol.

Here the physicol exomination, including digitol rectol, wos negotive. But on proctoscopy, his first, o fungoting tumor wos discovered in the lower sigmoid obove the reoch of the exomining finger. The biopsy report wos corcinomo. A second borium enemo showed that, in the four month intervol, the coecal defect hod grown lorger.

At exploratory loporotomy, corcinomo of the coecum ond sigmoid with extension to the mesenteric lymph nodes was found.

To quote from an article by Dr. Fred Rankin in the March 4, 1950, issue of the J. A. M. A., ". . approximately 50,000 persons die in the United States each year from cancer of this segment of the bowel (the lower portion of the gastro-intestinal tract). Such statistics are of a necessity inaccurate and probably too low. Certainly a great many times that number of persons are suffering with various stages of the disease. This is a sad commentary on the physician's ability to diagnose these cases earlier, although attention has been focused on this point for several decades. Actually, it is an indictment in part of medical practice because *many of these lesions are permitted to grow to large size and even to metastasize before an adequate examination of the patient is performed . . . The diagnosis of cancer of the rectum (and lower sigmoid) is simple and seldom is missed if the physician performs (1) digital examination, (2) proctoscopic examination and (3) biopsy.*"

Comment: 1. About 75 per cent of cancers of the large bowel occur in the rectum and sigmoid. Over 50 per cent of these are in

reach of the examining finger. An additional 40 per cent of these may be visualized through the proctoscope. Only 5 to 10 per cent are above the range of the proctoscope.

2. Digital rectal examination is as much a part of a routine physical as a blood pressure determination.

3. In the presence of any symptomatology suggesting a large bowel abnormality, proctoscopy is indicated, followed by barium enema.

4. Diagnosis of abnormalities of the rectum and lower sigmoid is the responsibility of the physician doing the physical examination and the proctoscopy. This region is accessible to direct inspection and is very difficult to examine roentgenologically.

5. Diagnosis of abnormalities above the lower sigmoid is the responsibility of the roentgenologist. But it must be remembered that his interpretation does not constitute a pathological diagnosis. It is subject to error. Persistent symptomatology is indication for repeated X-ray examinations.

PROCEEDINGS

THE MEDICAL SOCIETY OF VIRGINIA

1952 ANNUAL MEETING

Richmond

September 28, 29, 30 and October 1, 1952

HOUSE OF DELEGATES

(Although verbatim minutes, insofar as the court reporter could get them, are in our records, this condensation is offered with the hope that the membership can know of the salient topics discussed at our House of Delegates meetings.)

FIRST SESSION

September 28, 1952

The House of Delegates of The Medical Society of Virginia met in the Auditorium of the Richmond's Hotel Jefferson on September 28, and was called to order at 8:00 P. M. by Dr. W. C. Caudill, Speaker of the House.

Dr. Caudill called for a report from Dr. Edward Haddock, Chairman of the Credentials Committee, and learned that a quorum was present.

The minutes of the 1951 meeting were then approved and passed without discussion.

Dr. Vincent W. Archer, Chairman of a special committee appointed to outline reference committee procedure for the Annual Meeting, was recognized for the purpose of explaining the proposed procedure. He referred to the committee's report published in the September issue of the Virginia Medical Monthly (page 525), and emphasized the fact that any member of the society could attend the meeting of the Reference Committee and have the privilege of the floor.

The report of Dr. Archer's committee was adopted and the reference committee procedure initiated.

The Speaker then recognized Dr. Harry J. Warthen, who presented the proposed budget for 1953 as recommended by the Council (see page 700, Virginia Medical Monthly, December 1952), and reported on the financial condition of the Society. The total budget of $66,110.00 was unanimously adopted.

The afternoon meeting of the Council was reported by Mr. Howard, Executive Secretary, and those items referred to the House of Delegates for action were read.

The first item was a resolution of the American Association of Blood Banks pertaining to the National Blood program (See minutes of Second Session, House of Delegates). A resolution concerning the World Medical Association was then read (See minutes of Second Session).

Mr. Howard stated that two other reports and resolutions would be presented later during the evening by Dr. Marcellus Johnson, Jr., and Dr. Harry J. Warthen.

It was then moved and passed that the report of Council be adopted. After some discussion, it was ruled that the resolutions received from Council should be referred to the Reference Committee.

Dr. Caudill then recognized Dr. John T. T. Hundley, President of The Medical Society of Virginia, who offered the following report on his tenure of office:

"I am not going to make a formal report of a year's work. But I do assure you it has been a year's work. First, I want to express my very hearty appreciation and thanks to every member of the office for their complete cooperation at all time, regardless of the hours, other demands and what not. And I solicit from all of you your fullest cooperation with Mr. Howard, not just criticism, not just writing in for information, both of which are in order, but by sending him reports of your meetings, sending him times of meetings so that he has an opportunity to meet with your Societies, putting him on your mailing lists so that he can get around and make the acquaintance of the local societies and their memberships. I wish to solicit that particularly. I wish also to re-iterate the invitation to see the Headquarters Building. This is the first meeting held in Richmond since we established the headquarters at 1105 West Franklin, and for those who have not seen that building, I hope you will take the opportunity to go up there and look it over. See where we are working and see how we are working.

"And I would like to say that much to my surprise, and I expect it is a surprise to you, we have lived within our budget in the operation of that building this year. I didn't think we would, and I think we have done well.

"I want to express appreciation to every member of the Society, and particularly to the members and chairmen of the various committees. I have made every effort to make this a committee year. To me The Medical Society of Virginia and any organization of similar type has to be primarily a committee organization. And I have tried very largely to refer everything which did not require immediate action to committees. There have been quite a few things that some of you have seen from the newspapers that did require immediate action that were not referred to committees. The committees have been most loyal and most cooperative in all respects.

"As I terminate my term of office, I suppose it is with a relatively healthy attitude. I feel very humble that so many things have not been done. And I have some pride that some few things have been accomplished. And I solicit for your incoming President the same sort of co-

operation you have given me this year. I did not want to miss an opportunity to say this to this group, because usually at the last meeting when we install the President, that is usually a time of a good deal of shifting around, and a representative audience is hardly reached at the time. But I do want to thank you for your cooperation. Any failures this year have been mine and certainly not yours and I thank you very heartily."

Delegates to special conventions were then recognized: Dr. Charles L. Outland, delegate to the Medical Society of the State of North Carolina, and Dr. Harold W. Miller, delegate to the Virginia Pharmaceutical Association.

Dr. Caudill introduced the following visiting delegates to the Annual Meeting: Dr. D. B. Armistead, Dr. W. E. Smith and Dr. W. G. Suiter, delegates from the Medical Society of the State of North Carolina, Dr. G. A. C. Jennings, from the Virginia State Dental Association, Mr. Charles E. Green and Mr. Reginald R. Rooke, representing the Virginia Pharmaceutical Association, and Miss Hazel Knibb, delegate from the Graduate Nurses' Association of Virginia.

The Speaker called for any reports not published previously in the Virginia Medical Monthly or any supplemental reports.

A report of the Tuberculosis Committee was presented by Dr. C. Lydon Harrell, Norfolk. The Committee recommended that in the survey of tuberculosis in Virginia being sponsored by the Virginia TB Association and the State Department of Health, a study be conducted within mental and penal institutions. It was moved and passed that the report be accepted.

Dr. Edwin P. Lehman requested approval of the Cancer Committee's supplemental report, which would provide a tumor clinic at the Louise Obici Hospital in Suffolk.

Dr. McLemore Birdsong, Chairman of the Child Welfare Committee, asked if a survey of infant motality proposed in the Committee's report and published in the Monthly, would automatically be approved by the House of Delegates, should those previously published reports be adopted. The answer was in the affirmative.

A supplemental report of the Medical Service Committee was offered by Dr. John O. Boyd, Jr., Roanoke (See minutes of Second Session). It was moved and passed that the report be referred to the Reference Committee.

At this time a propaganda film entitled "Without Fear" was shown. The film is a vicious attack on those who oppose the socialization of medicine and is especially critical of the American Medical Association. It enabled the assembled delegates to see just how the proponents of government medicine operate.

Dr. Marcellus Johnson, Jr., Chairman of the Virginia Committee for the American Medical Education Foundation was next recognized for the purpose of presenting a report and resolution (See minutes of Second Session). Dr. Johnson's resolution was referred to the Reference Committee.

The Speaker then recognized Dr. Harry J. Warthen, who offered a resolution concerning need of additional funds for hospital construction (See minutes of Second Session). The resolution was referred to the Reference Committee.

Dr. Caudill next called for unfinished business and recognized Dr. J. Morrison Hutcheson, Richmond, who gave the background of a resolution offered during the 1951 Annual Meeting which requested component societies to consider the matter of deleting the word "white" from the Constitution of The Medical Society of Virginia, and instruct their delegates to the 1952 Annual Meeting as to whether or not the word "white" should be dropped from the Constitution.

There followed considerable discussion concerning the voting procedure, and an amendment to be proposed by Dr. Adams was ruled out of order. The ruling of the chair was appealed, but the motion to overrule the chair was lost.

A motion was made by Dr. Walter Martin, Norfolk, that the vote proceed by component socicties. After a spirited debate concerning the constitutionality of such a vote, the motion was carried.

It was then moved to overrule the chair which had held component societies had the right to instruct their delegates how to vote. The motion was lost and the chair upheld.

It was further ruled that in those instances where component societies had not instructed their delegates, the delegations would be polled individually.

A poll was then taken and the results were Yes, 55; No, 48.

Further discussion ensued as to whether a second vote was to be taken of members of the House of Delegates individually. It was decided that members of Council, Delegates to the A.M.A., and past presidents (also members of the House of Delegates) should be polled individually to complete the vote. This was done and the final recording was 67 Yes, 54 No. A two-thirds majority was not had, and the original motion was lost.

Dr. John M. Emmett, Chairman of the Virginia Voluntary Advisory Committee to Selective Service, was recognized in order that several points concerning the drafting of physicians and dentists under Public Law 779 might be explained. Dr. Emmett explained that nearly all Priority 1 and 2 physicians and dentists had been called and those who have not may expect orders by the middle of 1953.

He went on to explain that members of the Priority 3 group will be called by age, with the youngest being called first. While there has been some processing of older dental registrants in this group, nothing definite is yet known concerning physicians in their late thirties and forties. However, it is not anticipated that physicians in these age groups will be called in the very near future.

Dr. Emmett stated that his committee had no information concerning the possible call of physicians in Priority 4. It seems unlikely that this group faces call in the foreseeable future, especially when it is considered that our medical schools will be graduating many non veterans each year who must be classified as Priority 3.

The time and place of the Reference Committee meeting was then announced, and the meeting adjourned until Tuesday, September 30, at 4:00 P. M.

SECOND SESSION

September 30, 1952

A quorum being present, the House of Delegates of The Medical Society of Virginia reconvened at 4:00 P. M., Tuesday, September 30, in the Flemish Room of the Hotel Jefferson.

The Speaker recognized Dr. Hundley, who presented the report of the Reference Committee. The Committee recommended the acceptance and adoption of the report of the Executive Secretary-Treasurer, the report of the Committee on Publications and the report of the Department of Clinical and Medical Education. It was so moved and passed.

At this point, it was moved and seconded that Dr. Hundley, as retiring president, be made an honorary member of the Society. The motion carried unanimously.

Continuing with the Reference Committee report, it was recommended that the reports of the Membership Committee, the Legislative Committee, and the Finance Committee be adopted. It was so moved and passed.

Considered next was the Judicial Committee's report concerning certain proposed changes in the Constitution and By-Laws. Dr. Hutcheson explained that the Committee had found the proposals in proper order for deliberations, but that the Committee made no recommendation as to adoption. It was moved and seconded that the report, with the exception of that portion relating to Article IV of the Constitution (deletion of word "white") be adopted and the proposed constitutional and by-law changes likewise be adopted. The motion carried.

Dr. Hundley then recommended the adoption of the report of the Public Relations Committee. It was so moved and passed.

The Medical Service Committee had requested that the paragraph of its report concerning the Pre-paid Hospital Insurance Sub-committee be stressed. This was done and the report adopted.

The reports of the Advisory Committee to the Woman's Auxiliary and the Cancer Committee (including supplemental report) were adopted.

Dr. Hundley stressed that part of the report of the Committee on Child Welfare dealing with the proposed study of the outstanding etiological factors in infant mortality. It was moved and passed that this report be adopted in its entirety.

Reports of the Cerebral Palsy Committee and the Venereal Disease Control Committee were then adopted.

Concerning the report of the Committee to Confer with the State Board of Nurse Examiners, Dr. Hundley pointed out the fact that it had been recommended that any survey to determine nursing needs in Virginia be made by a source other than a governmental agency. Any funds for such a survey would necessarily be appropriated by the Executive Committee of Council. It was moved and passed that the report be adopted.

Dr. Hundley then mentioned the reports of the Committee on Rehabilitation, the Advisory Heart Committee, and the Committee on Maternal Health. All of these reports were adopted.

A question was raised concerning a portion of the report of the Committee on Mental Hygiene referring to certain persons qualified only as clinical psychologists who have engaged in the treatment of patients with mental disorders. It was explained that the matter had been taken up with the State Board of Medical Examiners and also the attorney of the Society. The report was then adopted.

The report of the Committee on Conservation of Hearing was then adopted.

Having covered committee reports, Dr. Hundley presented those resolutions considered by the Reference Committee. The following resolution pertaining to the need of additional State funds to augment inadequate Hill-Burton funds for hospital construction in Virginia was read: To His Excellency, The Governor of Virginia—The Honorable John S. Battle.

WHEREAS, The Virginia Hospital Advisory Council has approved the requests of nine hospitals situated in seven Virginia communities for Federal funds under the provision of the Hill-Burton Act, and

WHEREAS, The anticipated Federal funds allocated to hospitals in Virginia, during the next three years will total only thirty-three (33) per cent of the estimated cost of these institutions, and

WHEREAS, The campaigns to raise funds for these institutions and the plans formulated in terms of the needs in each community were based on the assumption that fifty-five (55) per cent of the cost would be obtained from Federal sources as had been true in the past, and

WHEREAS, Failure to obtain the full anticipated amount will seriously curtail or actually prevent the erection of these badly needed hospitals with resulting hazards to the health of citizens of this Commonwealth,

THEREFORE, BE IT RESOLVED THAT His Excellency, the Governor of Virginia, be respectfully requested and urged to recommend that the present inadequate Federal aid be augmented by funds from the Commonwealth of Virginia, as has been done in the past, at the next meeting of the Legislature to be held in December, 1952, in order that the proposed urgently needed hospitals may be erected as originally planned at the earliest possible moment.

It was moved and passed that the resolution be adopted.

The next resolution presented was the following:

WHEREAS, Physicians throughout this country are alarmed over the potential dangers to the profession of medicine which are inherent in the proposed National Blood Program as promulgated by the Office of Defense Mobilization, Communication #2361, dated February 18, 1952, and

WHEREAS, This document states: "An effective blood program is of major national importance at all times", and "Such a program is of prime importance to agencies directly involved", namely the American National Red Cross and affiliated blood banks, the Department of Defense and the Federal Civil Defense Administration, but is only "of concern and interest to other organizations engaged in blood programs such as the American Medical Association, the American Hospital Association, and the American Association of Blood Banks", and

WHEREAS, This document authorized governmental control of a medical service during a national emergency without defining the limits and scope of the emergency or of the extent of control, and

WHEREAS, This document fails to provide the medical profession with a voice in policy decisions in a project which directly involves the medical profession, and

WHEREAS, Under the undefined term "national emergency" local medical control is excluded and the traditional responsibility of communities to meet their own civilian blood needs is not given proper consideration, and

WHEREAS, By this document the committee responsible for research in blood and related problems does not include representation from the American Medical Association;

THEREFORE BE IT HEREBY RESOLVED, That the American Medical Association, representing the medical profession, be urged to request proper representation in the medical control of any emergency blood program and that the need for a "National Blood Program" be further explored by the American Medical Association, and

BE IT FURTHER RESOLVED, That the principles of the Boston Agreement, pertaining to a National Emergency be adhered to, thus giving equal responsibility to the medical profession and to other medical agencies referred to in this agreement for the operation of any national blood program.

The motion for adoption of the resolution was seconded and passed.

The following resolution from the Alexandria Medical Society was read:

THAT the delegates of the Alexandria Medical Society be instructed to inform The Medical Society of Virginia of the problem concerning the Residency in Medicine at the Alexandria Hospital;

THAT FURTHER they point out that arbitrary and ill-timed decisions by the Council on Medical Education and Hospitals constitute an unfair and unwarranted threat to the system of graduate education, and a detriment to the level of medical care in any given community;

THAT FURTHER they point out that the decisions of the Council are based on generalities, and that criteria for Residency approval are vague, and that these criteria act to the disadvantage of moderate-size, non-university hospitals;

THAT they ask that The Medical Society of Virginia delegates to the American Medical Association House of Delegates be instructed to inform the American Medical Association of these facts, and to take such steps as are necessary to alter them.

In this connection the Reference Committee submitted the following resolution:

Having received the resolution from the Alexandria Medical Society and seriously considered the problem of interns and residencies in medium sized hospitals, and having similar complaints from other hospitals concerned, and

WHEREAS, This problem of internship and residencies in medium sized and non-university hospitals constitutes a serious hazard to the continuing service of those hospitals to their communities, and

WHEREAS The decisions of the Council on Medical Education and Hospitals of the American Medical Association often seem arbitrary and are not clear to the boards and staffs of the hospitals concerned,

THEREFORE, BE IT RESOLVED THAT The House of Delegates of The Medical Society of Virginia instruct their delegates to the A.M.A. to endeavor to secure a modification of procedure so as to correct the inequalities and injustices which result.

The resolution was adopted.

Dr. Marcellus Johnson's following resolution concerning the American Medical Education Foundation was presented:

BE IT RESOLVED THAT The Medical Society of Virginia endorse whole heartedly the American Medical Education Foundation, and

THAT the officers of The Medical Society of Virginia be directed to further this cause by personal effort, appointment of appropriate committees, and publications to the best of their ability, and

THAT There be a continuation of this drive on an annual basis until every doctor in Virginia is informed, interested, and has accepted the principle of annual contribution.

A motion for adoption was seconded and passed.

Considered next was the following resolution in support of the World Medical Association:

WHEREAS, The World Medical Association is an asso-

ciation of the National Medical Association of 43 countries of the free world, and

WHEREAS, This association is the only international association which can speak for the practicing physicians of the world, and

WHEREAS, There are an increasing number of health problems being decided on an international basis, and

WHEREAS, There is an increasing need for an association to represent the practicing profession, and

WHEREAS, The American Medical Association is one of the Founder Members of The World Medical Association, and

WHEREAS, The American Medical Association is also one of the Founder Corporate Members of the United States Committee, Inc., of The World Medical Association and has urged physicians of the United States to become individual members of the United States Committee, Inc.,

THEREFORE, BE IT RESOLVED That the House of Delegates of The Medical Society of Virginia urges the members of The Medical Society of Virginia to become individual members of the United States Committee, Inc., of The World Medical Association, and thereby aid in the elevation of standards in medical education and medical care throughout the world and ensure that the opinions of the practicing physicians of the world are adequately represented before various international bodies.

The resolution was adopted.

Dr. Hundley then read the following report of the Sub-committee on Industrial Health: The Sub-Committee on Industrial Health wishes to reiterate the recommendation made in the published report to the effect that the need now exists for a full time physician as director of Industrial Health under the Commissioner of Health in the Health Department. The rapidly increasing industrialization in our state demands the services of such an individual on a full time basis, if the problem of industrial health is to be effectively managed. The resolution was adopted.

The following recommendation was then presented: It is recommended that a Liaison Committee to cooperate with the United Mine Workers' Health and Welfare Fund be appointed by the President and include representatives from the areas involved, the Medical Service Committee and the sub-committee on Industrial Health. A motion that such a liaison committee be appointed was seconded and passed.

Presented next was the following resolution of Dr. William R. Jordan:

WHEREAS The threat of socialization of the practice of medicine has been very real in our National Government during the past several administrations, and

WHEREAS This society earnestly disapproves of this proposed change in relationship of patient and physician;

BE IT RESOLVED THAT The Medical Society of Virginia urges all physicians to study the platforms of the two major political parties and the opinions of the candidates for the Presidency of the United States. They are further urged to vote for and to promote the election of the candidate who in their opinion has the soundest views on this subject of socialization of medical practice.

The resolution was adopted.

This concluded necessary action on those items recommended and referred to the House of Delegates by the Reference Committee.

The Speaker then recognized Dr. Guy Fisher, Chairman of the Nominations Committee, who submitted the following nominations: President-Elect, Dr. Vincent W. Archer, Charlottesville; First Vice-President, Dr. Kinloch Nelson, Richmond; Second Vice-President, Dr. Snowden C. Hall, Danville; Third Vice-President, Dr. W. C. Welburn, Arlington; and Executive Secretary, Mr. Robert I. Howard, Richmond. It was moved and seconded that nominations be adopted. The motion carried unanimously.

The next order of business was the election of a Speaker for the House of Delegates, and Dr. John T. T. Hundley was elected.

Election of a delegate to the American Medical Association was next considered. This was necessary since the term of Dr. J. Morrison Hutcheson expires December 31. The results, announced by the Speaker, showed the new delegate to be Dr. Carrington Williams, Sr., and his alternate, Dr. Hutcheson.

The names of the nominees for Councilors of even numbered Congressional Districts were then announced: Second District, Dr. Walter P. Adams, Norfolk; Fourth District, Dr. Wilkins J. Ozlin, South Hill; Sixth District, Dr. Frank A. Farmer, Roanoke; Eighth District, Dr. Claude A. Nunnally, Fredericksburg; and Tenth District, Dr. James W. Love, Alexandria. A motion to adopt the nominations recommended by the Nominations Committee was adopted unanimously.

The Speaker called for nominations of the General Practitioner of the Year. Dr. B. A. Hopkins announced that he had been instructed by the Virginia Academy of General Practice to place in nomination the names of Dr. Frank A. Farmer, Roanoke, and Dr. James L. Hamner, Mannboro. It was then moved, seconded, and passed that the nominations be closed. Dr. Caudill read the results of the ballots and declared Dr. James L. Hamner to be General Practitioner of the Year in Virginia.

On behalf of the Roanoke Academy of Medicine, Dr. Charles Peterson invited the Society to meet in that city in 1953. There was some discussion as to the advisability of meeting in a city in which resides a great many members. A motion which would urge the Council to select a site other than a large city was lost. It was then moved and seconded that the Society meet in Roanoke in 1953. The motion carried.

Dr. Daniel moved that Council select the meeting place for 1954 sometime during the coming year in order to avoid conflicts in dates. The motion was seconded and passed.

It was then moved that the Study of Tuberculosis in Virginia, sponsored by the State Health Department and the Virginia Tuberculosis Association, be approved by the Society. The motion was seconded and passed.

Nominations were then announced for appointments to the State Board of Medical Examiners: First District—Dr. Waverly R. Payne, Dr. A. B. Gravatt, and Dr. Paul C. Pearson; Second District—Dr. Russell M. Cox, Dr. A. Brownley Hodges, and Dr. Bryan Grinnan; Fourth District—Dr. Thomas G. Hardy, Dr. W. Holmes Chapman, and Dr. Fletcher J. Wright, Jr.; Seventh District—Dr. Chester L. Riley, Dr. Noland M. Canter, and Dr. Alex F. Robertson; Ninth District—Dr. George B. Setzler, Dr. Harry M. Hayter, and Dr. James P. Williams; Tenth District—Dr. T. B. McCord, Dr. John C. Watson and Dr. Raymond Schwartz. It was moved and seconded that the nominations be approved. The motion passed.

There being no further business, the House of Delegates adjourned.

Reports Not Previously Published

Report of Committee on Tuberculosis

Dr. C. L. Harrell has been in touch with Dr. Joseph E. Barrett, Commissioner of Mental Hygiene, during the summer concerning patients in mental hospitals who have tuberculosis.

With the cooperation of Dr. William E. Apperson further studies are to be made of the needs and benefits to be obtained by a more active treatment program. Dr. Apperson hopes to begin this study in October, with the view of possibly starting treatment in the institutions and at the same time try to work out some plan whereby a full time or part time consultant in diseases of the chest can be obtained.

The Committee was requested on September 26, 1952 to examine and approve the proposed study of tuberculosis control in Virginia, sponsored jointly with the Virginia Tuberculosis Association and the State Health Department.

The Committee approves this study and it is recommended that the Society consider the proposal and if approved, communicate with Dr. Ennion S. Williams, Chairman of the Steering Committee, Life Insurance Company of Virginia Building, Richmond, Virginia.

GEORGE A. WELCHONS, M.D., *Chairman*

Supplemental Report of the Medical Service Committee

The Chairman of the Sub-committee on Indigent Care, Dr. H. B. Mulholland, is currently serving as chairman of a committee appointed by the A.M.A. to study this problem. This committee is investigating a number of plans for the care of the indigent, including the plan in effect in the city of Richmond which is conducted in conjunction with the out-patient department of the Medical College of Virginia. Other programs for indigent care are in effect in the state, such as that in Roanoke, in which a city physician serves in the Welfare Department and members of the Roanoke Academy of Medicine staff a full specialty clinic serving the indigent of the city. The report of the A.M.A. committee is to be made available in April 1953 and the Medical Service Committee does not recommend any specific approach to the problems regarding the medical care of the indigent at this time.

A.M.A. PUBLIC RELATIONS CONFERENCE

The Fifth Annual Medical Public Relations Conference of the American Medical Association was held in Denver on Monday, December 1.

Built around the theme "Mutual Understanding—The Key to Better Public Relations", the Conference attracted some 400 physicians and lay executives, who, almost without exception, agreed that this was A.M.A.'s best effort yet.

Dr. George Lull, Secretary of the A.M.A., delivered the address of welcome, and denounced those physicians who are guilty of flagrant violations of the Medical Code of Ethics. He called for firm action on the part of county societies in such instances.

The keynote address was made by Dr. Edward J. McCormick, President-Elect of the A.M.A., who cited the need of a bigger and better PR program in every society, and pointed out the necessity of a continuing fight against socialized medicine. He read a number of complaints received from persons in all walks of life, and emphasized the fact that these complaints are not always false. He further stated that from these complaints stem the threat of socialized medicine.

Dr. McCormick then lauded the progress medicine has made in its PR efforts during the past several years. It was pointed out that in 1948, sixty night call systems were in operation over the nation. By 1952, six hundred and fifty (650) systems were operating. There has also been an encouraging increase in the number of people covered by hospitalization insurance since 1948. At that time 48% of our population were covered. By 1951, 60% were covered.

Continuing, Dr. McCormick brought out the fact that the first Grievance Committee was appointed about five years ago, and now committees exist in every state. He stated that the United States has more doctors, more medical graduates, and the best Doctor-Patient ratio in the world. The problem of distribution is gradually being solved.

In a militant call for action, the President-Elect called for component societies to exercise responsibility and move aggressively against those members who overcharge patients possessing medical and surgical insurance. This tendency to overcharge must be stopped.

A dramatic skit was then presented by the Denver University Players, and pointed out the right and wrong ways of taking care of patients in the waiting room and in the doctor's office. It was humorous, different, and highly instructive.

Next on the program was Dr. H. Gordon MacLean, Oakland, California, who discussed the matter of fees. He stated that more often than not, fees are a prominent cause of a breakdown in Doctor-Patient relationships. He pointed out that no physician should apologize for charging a reasonable fee. However, the physician should seek to bring out the fact that there is an economic side of medicine. All that is needed, according to Dr. MacLean, is an opening to bring the matter up. The A.M.A. plaque was especially recommended.

Dr. Otto N. Glesne, Fort Dodge, Iowa, spoke on proper indoctrination of medical assistants and cited the growing interest of this particular group. He thought each component society should hold a yearly meeting for the benefit of the assistants.

Many reasons were advanced by Dr. W. Clark Bailey, Harlan, Kentucky, as to why physicians should interest themselves in legislative matters. It is necessary that we make sure that federal agencies do not dictate to the government. Rather, agencies should be servants of the government. Despite this, approximately 90% of all bills introduced during the last Congress were sponsored by agencies.

Dr. Charles H. Richardson, Macon, Georgia, asked physicians to put themselves in the patient's place, and think how they would feel if a bill were received itemizing the costs. Itemizing bills, according to Dr. Richardson, is a real step towards better medical public relations.

Two excellent panel discussions featured the afternoon session of the Conference, the first dealing with cooperative physicians-hospital PR programs, and the second with building a better understanding with future M.D.'s.

Concerning a physician-hospital PR program, it was brought out that a good nurse recruitment drive is most important. Local health councils and the Woman's Auxiliary can do much to insure the success of such a drive.

The second panel concentrated on the Student A.M.A. and offered many suggestions how component and state societies could help these future

physicians. Meetings could well be open to them and certain social activities might be planned. In some areas programs have been arranged for students' wives.

It was also believed that medical schools should concentrate more on the physician's responsibility to society and self and to the moral code of medicine.

Mr. Leo Brown, Director of Public Relations for the American Medical Association, then presented A.M.A.'s suggestions for "The Year Ahead." Their program emphasizes the five following points: (1) Develop better understanding of the public with regard to fees; (2) Develop better understanding of physician supply; (3) Better understanding of the A.M.A.; (4) Encourage liaison with other groups; (5) Encourage physicians to practice sound Public Relations.

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BOOK ANNOUNCEMENTS

The Origin of Life and the Evolution of Living Things. An Environmental Theory. By OLAN R. HYNDMAN, B.S., M.D., F.A.C.S. Philosophical Library, New York. 1952. xxi-648 pages. Cloth. Price $8.75.

New and Nonofficial Remedies. Containing Descriptions of the Articles which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1952. Issued under the direction and supervision of The Council on Pharmacy and Chemistry, American Medical Association. 1952. Philadelphia, J. P. Lippincott Company. xlvi-838 pages. Cloth. Price $3.00.

A 40 Year Campaign against Tuberculosis. By LOUIS I. DUBLIN, Ph.D., Second Vice-President and Statistician, Metropolitan Life Insurance Company, New York. Published by Metropolitan Life Insurance Company. 1952. v-115 pages. Cloth.

Correlative Neuroanatomy and Functional Neurology. By JOSEPH J. McDONALD, M.S., M.Sc.D., M.D., Professor of Surgery, Columbia University; etc. And JOSEPH G. SCHUSID, A.B., M.D., Attending Neurologist, St. Vincent's Hospital, New York. Sixth Edition. Lange Medical Publications. University Medical Publishers, Los Altos, California. 1952. 263 pages. Price $4.00.

Pardon My Sneeze. By MILTON MILLMAN, M.D., San Diego, California, Fellow American Academy of Allergists and Member American Academy of Allergy. Frye & Smith, Ltd., San Diego. 1952. 217 pages. Illustrated.

Brain Surgeon. The Autobiography of WILLIAM SHARPE, M.D., New York City. The Viking Press, New York. 1952. xvi-271 pages. Cloth. Price $3.75.

Progress in Fundamental Medicine. By PAUL CANNON, University of Chicago; J. A. CUNNINGHAM, University of Alabama; PAUL KLEMPERER, Mt. Sinai Hospital, New York; ALBERT KLIGMAN, University of Pennsylvania; G. K. MALLORY, The Mallory Institute; TRACY B. MALLORY (deceased), The Massachusetts General Hospital; J. C. PATERSON, University of Western Ontario; L. B. STODDARD, University of Kansas; W. KENNETH CUYLER, Duke University, J. P. WYATT, St. Louis University. Edited by J. F. A. McMANUS, University of Virginia. Lea & Febiger, Philadelphia, 1952, 316 pages, with 74 illustrations and 2 colored plates. Cloth. Price $9.00.

Annotated Bibliography of Vitamin E. 1950 and 1951 Volume II. Compiled by PHILIP L. HARRIS and WILMA KUJAWSKI of The Research Laboratories of Distillation Products Industries, Rochester, N. Y. 106 pages. Price $2.00

The Low Fat Diet Cook Book. By DOROTHY MYERS HILDRETH and EUGENE A. HILDRETH, M. D. Introduction by Francis C. Wood, M.D. Medical Research Press, New York. 1952. xi-148 pages. Cloth. Price $2.95.

Therapeutic Meal Plans. A New Diet Manual. Prepared by the Department of Dietetics and Nutrition, University of Kansas School of Medicine. Edited by VIRGINIA TOEWS, BERDENA ROSENOW, and RUTH GORDON, Dietitians. University of Kansas Press, Lawrence, Kansas. 1952. 111 pages. Cloth. Price $3.00.

Synopsis of Pathology. By W. A. D. ANDERSON, M.A., M.D., F.A.C.P., Professor of Pathology, Marquette University School of Medicine; Pathologist, St. Joseph's Hospital, Milwaukee, Wis. Third Edition. St. Louis, The C. V. Mosby Company. 1952. 788 pages with 334 text illustrations and 13 color plates. Cloth. Price $8.00.

EDITORIAL

Beverley Randolph Wellford, 1797-1870

ABOUT the middle of the last century there occurred three events of great moment to the medical profession of Virginia; (1) the founding of the American Medical Association, (2) the reorganization of the Medical Society of Virginia on a state wide basis, and (3) the reorganization of the Medical College of Virginia as a ward of the state. The medical profession was coming of age in Virginia. In each of these projects Dr. Beverley Randolph Wellford played an important part.

The first meeting of the American Medical Association was held May 5, 6, and 7, 1847 at Philadelphia when Nathaniel Chapman was elected president. The fifth annual session was at Charleston, South Carolina where Dr. Beverley Randolph Wellford of Fredericksburg, Virginia was elected vice-president. At the next meeting May 4, 5, 6, 7, 1852 in Richmond, Dr. Wellford became the sixth president. His presidential address the following year was a notable one in which he reviewed the history, aims and benefits of the Association. He stressed reforms in medical education, the separation of teaching and licensing, and the need of vital statistics. Even today this address is quoted (History of American Medical Association 1847-1947, p. 59).



Beverley Randolph Wellford, M.D.

The Medical Society of Virginia has had a checkered history. On December 15, 1820 seventeen physicians of Richmond and Manchester met and formed themselves into the "Medical Society of Virginia". They met monthly for their mutual improvement and one of the first resolutions they adopted was "that no person holding in part or whole any patent medicines, or remedies for diseases, shall be eligible to a seat in this society; and any member who may hereafter become interested directly or indirectly,

in any such patent, shall thereby absolutely forfeit his seat, and the word 'expelled' written opposite his name in the record book." In 1824 the Society was incorporated by the General Assembly of Virginia and in the same year the Society ceased to meet, for some unknown reason. In 1841 the Society was revived, the original constitution was readopted and new officers elected. The Society remained essentially a local society, but as members outside of the city were admitted to membership, complaints began to arise that the Richmond doctors controlled the society. Since the Society met once a month in Richmond, it could hardly be otherwise. By 1846 definite steps were taken to remedy the situation. Another bone of contention was the advisability of having a journal, which was settled, at least partially in 1851 when publication of the *Stethoscope and Virginia Medical Gazette* was begun. In 1852 Dr. Wellford was elected the first president of the reorganized Medical Society of Virginia and annual sessions replaced the monthly meetings.

The reorganization of the Medical College of Virginia provoked an even more bitter controversy. The teaching of medicine in Richmond began in 1838 under the charter of Hampden-Sydney College. It was a common practice of the time for a proprietary medical college to borrow the charter of a liberal arts college in order to confer a degree. The faculty of the medical school managed its own affairs without help or hindrance from the trustees. For fifteen years this arrangement worked smoothly and then a division arose over filling a vacancy in the faculty. Some "outside" Richmond doctors proposed the name of one not acceptable to the faculty. The matter was taken up with the trustees who elected the candidate of the outsiders. The issue was aired in the press, both lay and medical, with much name calling. Finally, the fight was carried to the Legislature which dissolved the connection with Hampden-Sydney and gave the Medical College a charter of its own. The agitation continued for several years and centered around Dr. Wellford who was now both a member of the Board of Visitors and of the faculty.

Dr. Robert Wellford (1753-1823), the American progenitor, and himself the son of a doctor, was the head of a long line of Virginia doctors that extends to the present time. He came to this country with the First Royal Grenadiers. His coming to Fredericksburg is an interesting story. It seems that after the battles of Brandywine and Germantown the wounded American prisoners were so badly treated by a British army surgeon that General Washington complained to General Howe, who after investigation put Dr. Wellford in charge of their treatment. A great improvement followed and Dr. Wellford gained the friendship of Col. John Spotswood, one of the prisoners, and of General Washington. At the same time he gained the enmity of the British surgeons which was so great that the situation became intolerable and led to Dr. Wellford's resignation from the British Army. When the way opened up for Col. Spotswood's return to Virginia, General Washington suggested that Dr. Wellford accompany him and gave the doctor a number of letters of introduction to his friends in Fredericksburg.

Dr. Robert Wellford greatly prospered in Fredericksburg and became a leading citizen. When the whiskey rebellion broke out (1794) Washington made him Surgeon General of the army that was raised to suppress the uprising. He married Catherine Yates a descendant of Edward Randolph of Turkey Island. Two of their sons, Horace (1790-1828) and Beverley Randolph (1797-1870) and five of their grandsons became physicians.

Beverley Randolph Wellford (1797-1870) was born in Fredericksburg on July 29, 1797. After studying under his father he attended two sessions at the University

of Maryland and graduated in the year 1817 with the degree of M.D. In the same year he received a certificate from the Baltimore Medical Society and Institute. He then returned to Fredericksburg and entered into active practice with his father. For two years, however, 1818-19 and 1819-20, Dr. Wellford returned to Baltimore and attended the Winter Sessions of the Medical School of his Alma Mater.

Like his father, the young doctor loved his profession and was devoted to his patients, no sacrifice being too large, no trouble too great, if, by it, he could benefit any of those who had entrusted themselves to his care. He subscribed to and read assiduously the London Lancet and the Medico Chirurgical Review.

In 1832 when an epidemic of Asiatic cholera invaded this country, he went to New York to help combat the disease and by observation and experience to fit himself to better serve the people of his own community. Returning safely to Fredericksburg he at once set about providing an abundant supply of what were then considered the best cholera remedies. In this he was assisted by several young men who were studying under him.

Although medicine was his chief concern, as a good citizen, Dr. Wellford had other interests. He was a "Justice of the Corporation" and a member of the commission appointed in 1849 to contract for a new Court House, and later supervised its construction. He was a partner in the great stage line known as Peck, Wellford & Company and was first president of the Fredericksburg & Gordonsville Railroad.

Dr. Wellford's fame spread beyond the Rappahannock country, and justly so. In 1851 he was elected president of the Medical Society of Virginia and in 1852 he was president of the American Medical Association. He was tendered a professorship in the medical department of the University of Virginia which he declined, but, when the Medical College of Virginia became an independent school in 1854, he was named in the act of incorporation as a member of its first Board of Trustees and, in the spring of that year, he was elected to and accepted the chair of Materia Medica and Therapeutics there. He held this position until his retirement in 1868 when he was elected Professor Emeritus. During the war he was in charge of one of the numerous Confederate hospitals in Richmond. Dr. Wellford died of apoplexy after a protracted illness on December 27, 1870. He was married twice. His first wife was Miss Betty Burwell Page, who had one daughter and died the second year after her marriage. His second wife was Miss Mary Alexander who bore him seven sons and two daughters. Two of these sons became prominent physicians, John Spotswood (1825-1911) and Armistead Nelson Wellford (1826-1884). The latter was the father of Dr. Armistead Landon Wellford (1857-1933) and the grandfather of Dr. Beverley Randolph Wellford of the present generation.

Connecticut's Remarkable Maternal Mortality

FOR years Connecticut has been noted for its low maternal mortality. It has consistently maintained a mortality below that for the nation as a whole and in many years it has led all states in low maternal death rates. The explanation that is usually given for such a record is that it is a small State with a homogenous population and that most of the deliveries take place in hospitals. A generation ago it was widely taught that hospital deliveries were more hazardous than home deliveries. The Connecticut experience certainly disproves that dictum.

In 1946 when maternal deaths had fallen to fewer than one to 1000 live births, the Connecticut Medical Society decided that one half of these were preventable, and

appointed a permanent Committee on Maternal Mortality and Morbidity to see what could be done about it. A report of this Committee appears as the leading article of the November 1952 issue of the *Connecticut State Medical Journal*. The maternal mortality for 1950 was 0.4 per 1000 live births. More than 99% of Connecticut's mothers were confined in hospitals. Each death was carefully analyzed by the Committee and one-half of them were considered preventable; 33% by the attendant, 14% by the patient, and 3% undetermined. The Committee makes six specific recommendations: (A) Continued education of the patient and physician in the value of early and adequate prenatal care; (B) A thorough study and analysis of maternal morbidity by the medical staff of each hospital; (C) Improved medical staff organization in all hospitals; (D) Written rules and regulations to assure optimum medical care for all obstetrical patients; (E) Earlier and more frequent use of medical or obstetrical consultation for complications of pregnancy; (F) Accurate and complete records on all maternity patients.

SOCIETIES

The Albemarle County Medical Society

Held its regular meeting at Hotel Albemarle, Charlottesville, December 4, with Dr. G. T. Mann, chief medical examiner for Virginia as the speaker. His subject was "Problems of the Medical Examiners System". Supper was served later.

Danville-Pittsylania Academy of Medicine.

At the November meeting of the Academy, the following officers were elected for the coming year, and took office at the December 12 meeting: President, Dr. John R. Eggleston, Danville; vice-president, Dr. Betty Whitehead, Chatham; and secretary-treasurer, Dr. Walter C. Fitzgerald, Danville.

The Fairfax County Medical Society

Met on November 11th, at the home of Dr. Emanuel Newman at Falls Church.

Dr. Muilenberg presented a film made by the United States Army, showing the operation for sympathectomy.

Mrs. Costello of the Instructive Visiting Nurse Society of Fairfax County spoke to the group about the work of the visiting nurses in the county.

The plans for the annual dinner meeting were discussed. It will be held on November 26th at the Belle Haven Country Club.

ALICE H. KIESSLING,
Publicity Committee

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held as a dinner meeting at the Virginian Hotel on Monday, November 10th.

The program was a Symposium on Pain, presented by Dr. David Wilson, with Dr. Walter Klingman, and Dr. Daniel T. Watts of the University of Virginia.

EDWIN A. HARPER,
Secretary.

Montgomery County Medical Society.

The fall meeting of the Society was held at Christiansburg, Virginia on November 5. Twenty-five members attended. Dr. Ford Lucas of Blacksburg, President, presided.

Dr. Dave Phlegar of Blacksburg gave a report of the activities of the House of Delegates at the State Society meeting in Richmond. The Film "Without Fear", which had received considerable comment from professional groups, was shown.

Four new members were elected to membership.

DANIEL D. CHILES,
Secretary

Hampton Medical Society

Is the name adopted by the old Elizabeth City County Medical Society at its meeting at Dixie Hospital in Hampton on November 24. This change was made as there is no longer an Elizabeth City County, this having been consolidated last summer to become the city of Hampton. Dr. Paul J. Parker and Dr. Robert H. Wright, Jr., are president and secretary, respectively. Two new members were elected at this meeting.

Warwick-Newport News Medical Society.

At a recent meeting, the Warwick County Medical Society changed its name to the above that it may conform to the newly established governmental units of the Peninsula. The officers elected for 1953 are: President, Dr. O. Watts Booth; vice-president, Dr. W. H. Kretz; and secretary-treasurer, Dr. W. Ward Anderson. All are of Newport News.

Richmond Academy of Medicine.

At the meeting of the Academy on December the 9th, Dr. Guy W. Horsley presiding, officers were elected for the coming year, these to take office at the first January meeting. Dr. C. L. Outland will succeed to the presidency, and Dr. Benjamin W. Rawles, Jr., was elected president-elect. Dr. Wellford C. Reed and Dr. J. Robert Massie were named vice-presidents. Dr. Linwood Ball and Dr. Charles Nelson were selected as new members of the board of directors.

The Wise County Medical Society

Met at Hotel Norton on November 12, in a dinner meeting. Twenty-nine enjoyed the late Wyeth talkie on the recent national convention of the Academy of General Practice and heard fine addresses by Dr. R. N. Shelly on "Some Problems of the Acute Abdomen", and Dr. D. A. Jones on X-ray interpretation.

Four new members were elected. Drs. C. H. Henderson and E. P. Cox, both of Norton, were elected to the Board of Censors, succeeding Drs. L. N. Waters and Dahar Cury, both of whom are taking additional training in their specialties.

T. J. Tudor, *Secretary.*

NEWS

National Rural Health Conference in Roanoke.

The Council on Rural Health of the American Medical Association looks forward to holding its Eighth Annual National Conference on Rural Health at Roanoke, Virginia, February 26-27-28. In making arrangements for the meeting we have already experienced the warmth of Southern hospitality for which Virginia and the region is famous. We have had fine cooperation from Dr. John Boyd, Jr., Chairman, Medical Service Committee, Robert Howard, Executive Secretary, Edgar A. Fisher, Jr., Director, Virginia Council on Health and Medical Care, and many others. For all of this we are indeed grateful. We feel assured of a full measure of cooperation from all the physicians of the area as well as the lay groups and with this the final success of the most effective rural health conference yet held.

The first four of the National Conferences on Rural Health were held in Chicago but the last three have been held out in the regions of the country, one at Kansas City, one at Memphis and the last one at Denver. We do this so that we may gain first hand knowledge of the health problems of the people from those who live in the areas. We seek to get advice and counsel as to what can best be done about these problems. There is always a wealth of experience in an area which it is our good fortune to draw upon, and we hope the physicians of Virginia and the surrounding states will not only be in attendance themselves but will get leading farm laymen to attend.

Through the years we have enjoyed the confidence, assistance and support of such outstanding farm organizations and agencies as the American Farm Bureau and its constituent state organizations, the National Grange and its affiliated state Granges, the National Milk Producers Federation, the Extension Services of the Land Grant Colleges, the Farm Foundation, and the Association of Farm Journal Editors. We hope that all rural groups, whether or not they are affiliated with one of the above groups, will be present, and physicians can help us by inviting them. We would especially like to get rural ministers from the area.

The program has a minimum number of speakers. Those who will speak, however, will deal with important topics such as dental health, paying for medical care, problems of prepayment insurance, problems of health and medical care in the South, and a recital of successful experiences from people and communities across the nation on how they have solved a particular problem.

There will be ample time and opportunity provided for those in attendance to raise questions on state problems. In fact, there has been almost as much time provided for the audience to discuss its

problems and to make suggestions as there has been set aside for the speakers.

We therefore, thank the physicians in advance for their cooperation in getting the rural leaders to attend the conference and we welcome each of the physicians to be with us.

F. S. CROCKETT, M.D., *Chairman,*
Council on Rural Health, A.M.A.

The World Medical Association,

In conjunction with the Pan American Medical Confederation, will meet in Richmond, April 23-25, with headquarters at the Jefferson Hotel. Dr. Louis H. Bauer, president of the American Medical Association and secretary-general of the World Medical Association, is calling its first western hemisphere conference of the two organizations. A. H. Robins Company, Inc., of this city has made a grant in support of the conferences on the occasion of its 75th anniversary as a maker of prescription specialties. Open house, with luncheon at the dedication of the new plant of this Company, will add to the pleasure of those attending the conferences. Tours, sightseeing and other entertainments in Richmond and in nearby places will add to the interest of the meetings. The sessions on the second day will be held at the Medical College of Virginia.

New Dean of the University of Virginia School of Medicine.

Dr. Thomas Harrison Hunter, associate dean of Washington University School of Medicine, St. Louis, Mo., has been selected dean of the University of Virginia School of Medicine by action of the Board of Visitors. President Colgate W. Darden announced that Dr. Hunter will arrive February 1, 1953, to fill the position which Dr. Vernon W. Lippard has resigned to become dean of medicine at Yale University from which he graduated in 1929.

Dr. Hunter was born in Chicago and educated at Belmont Hill School in Boston before entering Harvard University, where he majored in psychology and received an A. B. degree cum laude in 1935. He was awarded a Henry Fellowship for study in England where he attended Cambridge University from 1935 to 1938. He began his medical studies at Cambridge and in his third year transferred to Harvard where he received an M. D. degree cum laude in 1940.

At Presbyterian Hospital in New York Dr. Hunter served an internship, two years of assistant residency and one year of chief residency. He began his teaching when he became instructor in medicine on the staff of Columbia University in 1945.

Seven years after graduation from medical school, in September 1947, Dr. Hunter was appointed assistant dean of the Washington University School of Medicine and assistant professor of medicine. A year later he was named chief of the medical service at Homer G. Phillips Hospital in St. Louis. He was appointed associate professor of medicine in July 1951, and associate dean last March.

Dr. Hunter has contributed numerous publications to medical journals on his studies of subacute bacterial endocarditis and its treatment with antibiotics. He is the author of a chapter on endocarditis in Cecil's Textbook of Medicine, 1951 edition.

The Watts Hospital,

Durham, North Carolina, will hold its tenth annual Medical and Surgical Symposium on February 11 and 12, at the Carolina Theatre in that city. There will be a Clinico-Pathological Conference on the first morning and a Panel Discussion that evening on Gastritis from the Viewpoint of Various Specialties. At the afternoon session on the first day and at the morning and afternoon sessions on the second day various subjects will be discussed by outstanding men from different sections of the country.

Virginia Council on Health and Medical Care.

Aubrey D. Gates, Field Director of the Council on Rural Health of the American Medical Association will be the guest speaker at the annual meeting of the Virginia Council on Health and Medical Care. The meeting will be held on Monday, January 12, 1953 at 1:30 p.m. in the auditorium of the Richmond Academy of Medicine. It is hoped that as many physicians as possible will be able to attend this meeting. All are welcome.

For additional details please contact the Virginia Council on Health and Medical Care, 102 East Franklin Street, in Richmond.

Dr. H. Ward Randolph,

Formerly of Richmond but who has been living for the past several years at his home on the Great Wicomico River in the Northern Neck, has returned to Richmond and is at 2904 Chamberlayne Avenue.

Southern Electroencephalographic Society.

Dr. Isadore S. Zfass, Richmond, was elected president of this society at its meeting in Miami at the time of the Southern Medical Association meeting. Dr. Samuel C. Little of Birmingham, was elected vice-president, and Dr. Don Winfield of Memphis secretary-treasurer.

The Richmond Chapter of The American Heart Association

Will sponsor a symposium on Cardiovascular Diseases to be held on the afternoon and evening of February 6, 1953 in Richmond. The afternoon speakers will be Doctor Gordon B. Myers of Detroit, who will speak on "The Pitfalls in the Electrocardiographic Diagnosis of Myocardial Infarction", Doctor Robert L. Levy of New York City, who will speak on "The Management of the Patient with Coronary Heart Disease," and Doctor George A. Perera of New York City, who will speak on "Hypertension". The evening speaker will be Doctor Howard B. Sprague of Boston, who will speak on the general subject of heart disease with the presentation designed to be of interest to both lay and professional individuals.

A cordial invitation is extended to all physicians.

The Virginia Society of Ophthalmology and Otolaryngology

Plans to hold its next meeting at the Homestead, Hot Springs, Va., May 4th and 5th, and a pleasant meeting and excellent program will be enjoyed. Dr. A. D. Morgan of Norfolk is president, and Dr. G. S. Fitz-Hugh of Charlottesville is secretary-treasurer.

Assistant Medical Director, Richmond School Board.

Dr. George G. Ritchie, Jr., of Richmond, has been named by the Richmond City School Board as assistant medical director to work with Dr. C. L. Outland, director. Dr. Ritchie is a graduate of the Medical College of Virginia, class of '50, and interned at the Medical College of Virginia Hospitals. He will be on a part time basis.

Dr. Harry M. Hayter,

Abingdon, captured the "challenge bowl" November 28, in the National Foxhunters' Association show at Gatlinsburg, Tenn.

Dr. E. G. Gill,

Roanoke, by invitation addressed the New Jersey Ophthalmological Society at Princeton, on December 4. He gave an illustrated talk on Recent Advances in Cataract Surgery.

The First World Congress on Fertility and Sterility

Will be held on May 25-31, 1953 at the Henry Hudson Hotel in New York City. This Congress is sponsored by the International Fertility Association with the cooperation of the American Society for the Study of Sterility.

Twenty-three scientific sessions are to be held, which will embrace the entire field of fertility and and sterility, including sessions dealing with socio-economic factors, psychosomatic aspects, and artificial insemination. The sessions will be conducted in English, French and Spanish, with the use of earphones and simultaneous translations, as in the United Nations meetings. In addition to the scientific sessions there will be medical round table discussions, question and answer periods, scientific exhibits and motion pictures.

It is anticipated that 1800 scientists from 51 countries will attend the Congress, making it the world's largest medical meeting devoted to problems of reproduction. This Congress will facilitate the exchange of ideas and information among doctors from the various countries, dealing with the very latest findings in fertility studies.

Since seats at the Congress will be at a premium, it is suggested that those who plan to attend write as soon as possible to the Chairman of the Local Arrangements Committee, 1160 Fifth Avenue, New York 29, New York, for advance registration.

Motion Pictures Available to Local and Other Medical Societies.

The Committee on Medical Motion Pictures of the American Medical Association has announced the publication of a new revised film list which includes 78 medical films not readily available from other sources.

This list is available for distribution, and a copy may be obtained by writing the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.

News from the Medical College of Virginia, Richmond.

Dr. William Branch Porter, Professor of Medicine, was honored on October 23 by his former residents,

in founding the William Branch Porter Society. A scroll presented to Doctor Porter read: "In recognition of his many years of devoted service, unfailing interest, and inspirational teaching as professor of medicine at the Medical College of Virginia, we, his former residents, honor our esteemed teacher . . . by founding the William Branch Porter Society."

Dean John B. Truslow and Associate Dean George W. Bakeman of the school of medicine, Dr. Kinloch Nelson, Director of Continuation of Education, and Dr. Edward M. Holmes, Jr., Professor of Community Medicine, attended the annual meeting of the Association of American Medical Colleges in Denver.

Gifts and grants since July 1, the beginning of the fiscal year, total $227,635.88.

A number of faculty members attended and participated in the meetings of the Southern Medical Association in Miami in November.

Postgraduate Course in Diabetes and Basic Metabolic Problems.

The first Postgraduate Course in Diabetes and Basic Metabolic Problems to be conducted by the American Diabetes Association will be offered under the direction of Charles H. Best, C.B.E., M.D., F.R.S., Director of the Banting and Best Department of Medical Research of the University of Toronto, on January 19, 20, 21, 1953, at the University of Toronto, Canada.

Developed by the Association's Committee on Postgraduate Education, under the chairmanship of Edward L. Bortz, M.D., the Course will have as its Clinical Director, Ray F. Farquharson, M.B., Professor of Medicine of the University of Toronto, and Andrew L. Chute, M.D., Professor of Pediatrics of the University of Toronto, will act as Associate Clinical Director.

Over thirty lectures and round-table discussions have been planned as well as a social evening. The Course is open to non-member physicians as well as members of the American Diabetes Association, but the number of registrants will be limited to 100. Fees are $20 to members, $40 to non-members. Details of the three-day program and registration and hotel information may be obtained from J. Richard Connelly, Executive Director, American Diabetes Association, 11 West 42nd Street, New York 36, N.Y.

Dr. F. L. McDaniel Resigns.

Dr. McDaniel has resigned his position as assistant to the commissioner of the State Department of Mental Health and Hospitals to accept a position with the Central Inspection Board of the American Psychiatric Association. He had served for the past four years in this position in Dr. Joseph E. Barrett's Department.

Dr. John T. T. Hundley,

Lynchburg, immediate past president of The Medical Society of Virginia, will serve as chairman of a special 150-member committee to evaluate and interpret for the public the 1952 "Study of Tuberculosis in Virginia". Dr. Roscoe P. Kandle, former field director of the American Public Health Association, who has been directing the State-wide survey will prepare a report of findings and a series of recommendations for an improved tuberculosis control program in the State. Dr. Ennion S. Williams of Richmond heads a 11-man steering committee which serves as a sort of board of directors for the study.

Joint Meeting in Atlanta.

The Atlanta Graduate Medical Assembly and Southeastern Section of the American College of Surgeons will meet simultaneously in Atlanta on February 23, 24, and 25, it has been announced by Dr. Mark S. Dougherty, Chairman of the 1953 A.G.M.A. meeting.

Heading the arrangements for the American College of Surgeons is Dr. William G. Hamm, of Atlanta. Reservations for this joint meeting can be made by writing Mrs. S. R. Roberts, Executive Secretary, Atlanta Graduate Medical Assembly, 15 Peachtree Place, N. W., Atlanta.

Many noted guest speakers will address the meeting and symposia and important medical developments will be presented. The completed program will be announced at a later date. A.G.M.A. meeting acceptable for post-graduate credit by American Academy of General Practice.

Dr. Dougherty stressed the importance of early registration. He further stated that the registration fee of $10.00 will be refunded up to one week prior to the start of the meeting if notification is received.

American Medical Association—Clinical Session.

There was a large attendance at the sixth annual

clinical session of the A.M.A. in Denver, December 2-5, and the scientific exhibits covered a wide range of subjects. Special color television programs, sponsored by Smith, Kline and French, were given throughout the meeting.

As for the past five sessions, the General Practitioner of the Year was selected from the names submitted by the various State societies, Dr. John M. Travis, seventy-five year old physician of Jacksonville, Texas, was named for this honor.

Essay Contest.

The Mississippi Valley Medical Society announces its annual Essay Contest—cash prize of $100—open to members of the American Medical Association who are residents and citizens of the United States. Essays are to be submitted not later than May 1, 1953. Details may be secured from Harold Swanberg, M.D., Secretary, Mississippi Valley Medical Society, 209-224 W.C.U. Building, Quincy, Illinois.

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OBITUARIES

Dr. James Washington Reed,

Well known general practitioner of Norfolk, died September 23. Born in King William County, Virginia, he was educated at West Point Academy in Virginia, William and Mary College, Rush Medical School, University of Illinois, then attended the Medical College of Virginia, where he graduated in June 1912.

He interned at St. Vincent's Hospital, then went to Appalachia to practice medicine. He went to Ocean View to practice in 1914, where he continued to practice until his death. From 1914 to 1917, he served as Norfolk County Health Officer. He served on the Norfolk City Council for three terms and was Mayor of the City from 1944 to 1946.

He was active in church, was a member of Fraternal Organizations, was active in Civic and Community activities and a member of his local and State medical societies.

The Norfolk County Medical Society passed the following resolutions on his death:

WHEREAS the Profession has sustained a great loss,

BE IT RESOLVED: That we, the Members of the Norfolk County Medical Society, extend to his family our deepest sympathy.

BE IT FURTHER RESOLVED: That these resolutions be recorded in the minutes and copies be sent to the family and the VIRGINIA MEDICAL MONTHLY.

Committee: W. H. WHITMORE
R. M. REYNOLDS
C. L. HARRELL, *Chairman*

Dr. Robert Washington Sturgis,

Norfolk, who had been active in medicine for fifty-six years, died on November 17, as he was leaving his home. He was a native of the Eastern Shore, Virginia, attended William and Mary College, and received his medical degree from the University of Maryland in 1896.

Following thirty-three years of private practice, he was full-time physician with the Ford Motor Company for eleven years. Following another industrial position with the Smith-Douglass Fertilizer Company for six years, he had been in charge of the Mobile Unit of the Tidewater Regional Blood Center of the American Red Cross from its beginning.

He was a member of the Norfolk County Medical Society, The Medical Society of Virginia of which he was also a Life member, and the American Medical Association.

He is survived by his wife, his married daughter, and a sister.

The Norfolk County Medical Society adopted resolutions of appreciation of the life of Dr. Sturgis.

Dr. Reid White, Jr.,

Of Lexington, died December 4, in a New York Hospital. He was fifty-two years of age and had graduated in medicine from the University of Pennsylvania in 1926. After completing his internship in Philadelphia, he returned to Lexington and practiced with his father until his death in 1931. He then became physician to Washington and Lee University

which position he held until his retirement on account of his health last summer. He served in the Army Medical Corps for two years during World War II. His wife and two children survive him.

Dr. Burbridge S. Yancey,

Prominent internist of Harrisonburg, died November 9 of a coronary occlusion. He was fifty years of age and graduated from the University of Virginia, School of Medicine in 1926. He had been a member of The Medical Society of Virginia for twenty-five years.

Dr. Elbert B. Talbot,

Richmond, died November 15 after being in bad health for sometime. He was seventy-one years of age and had graduated from the Medical College of Virginia in 1911. Shortly thereafter he joined The Medical Society of Virginia. His wife survives him.

Dr. Basil E. Strode,

Richmond, died November 26 at Veterans Hospital at Kecoughtan. He was sixty-four years of age and a graduate of the Medical College of Virginia in 1912. He interned at New York hospitals and practiced for a time in Amherst County before locating in Richmond. He saw service in the Army Medical Corps during World War I. He is survived by three sisters.

Dr. Benjamin C. Moomaw,

Who had practiced in Roanoke for many years, died November 19, at the age of seventy-eight. He had graduated from the University of Virginia School of Medicine in 1899 and was a Life member of The Medical Society of Virginia.

Dr. Albert G. Schnurman,

Of Roanoke, died August 21 after an illness of several months. He was forty-one years of age and graduated from the University of Virginia in 1938. He saw service in the U. S. Navy during World War II and, on his return, located in Roanoke. He was a member of The Medical Society of Virginia.

Dr. Edwin L. Hobson,

Retired physician, formerly of Richmond, died at his home in Goochland County on October 8. He was eighty-three years of age and a graduate of the former University College of Medicine, Richmond, in 1895. Surviving are two brothers and two sisters.

Dr. William Willcox Dunn,

Who died at his home June 19, 1952, after a prolonged illness, was born in Petersburg, Virginia, October 7, 1870. He attended Colonel Gordon McCabe's School from which he entered the University of Virginia for his pre-medical course. He graduated from the College of Physicians and Surgeons in New York in 1894. Following his graduation he did extensive Post-graduate work in Vienna and London and upon his return he interned at the Bellevue Hospital in New York City. He passed the Virginia State Board June 1, 1898, after which he located in Richmond where he engaged in the practice of medicine and surgery.

He is survived by his wife who was the daughter of Dr. Richard McIlwaine, president of Hampden-Sydney College and two sons, William Willcox Dunn, Jr., and Richard McIlwaine Dunn.

He was Associate Professor of Surgery at the University College of Medicine. He was a member of the Board for the Retreat for the Sick Hospital where he spent much of his time and where he was much beloved by the Staff and those he worked with over a period of many years. He was a member of the American Medical Association, The Medical Society of Virginia and the Richmond Academy of Medicine.

He was active in the Selective Service work during World War II.

PAUL W. HOWLE, M.D.
B. W. RAWLES, M.D.

Dr. Grantland S. Miller,

For twenty months a practicing physician in the Raven and Richlands section, died suddenly November 23. He was a native of Georgia, twenty-seven years of age, and graduated in medicine from the University of Georgia. He served a while in the U. S. Navy after World War II. His parents survive him.

Dr. Oswald F. Hedley,

A member of the U. S. Public Health Service, who made his home in Arlington, died in Washington, November 19. He graduated from the Medical College of Virginia in 1928 and had served many important positions in the Public Health Service. His wife, two daugheters and his mother survive him.



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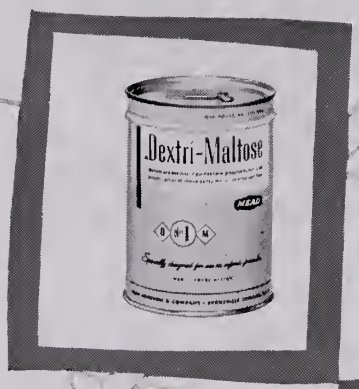
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1. Reich, W. J., et al. (1952), A Recent Advance in Estrogen Therapy. II. Amer. J. Obst. & Gynec., 64:174, July. **2.** Reich, W. J., et al. (1951), A Recent Advance in Estrogen Therapy. I. Amer. J. Obst. & Gynec., 62:427, August.

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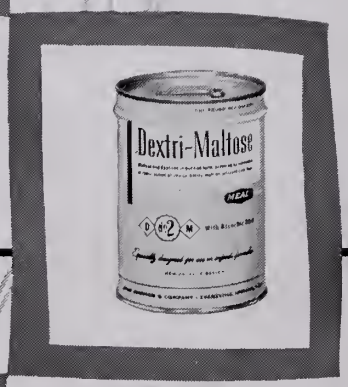


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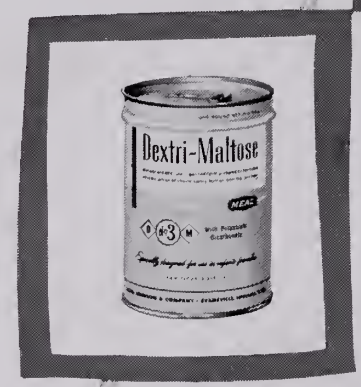
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VIRGINIA MEDICAL MONTHLY

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in the hands of the physician

Often the critical evaluation of the drug to be administered is as important to the patient's recovery as is the diagnosis of his condition. In each case correct procedures can be determined only by the physician.

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Similarly, the broad clinical effectiveness of CHLOROMYCETIN has been established, and serious blood disorders following its use are rare. However, it is a potent therapeutic agent, and should not be used indiscriminately or for minor infections—and, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

Virginia Medical Monthly

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RICHMOND, VA., FEBRUARY, 1953.

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GUEST EDITORIAL

Cooperation

COOPERATION plus effort is the key to success. Cooperation of individuals may be likened to the working of delicate and complicated machinery, as a watch, engines of all types, or rapidly firing guns. Each part is built and adjusted to work together to produce a desired result. Improperly adjusted, all parts not working together, would result in discord and confusion. Suppose, for instance, people could and would work together harmoniously, as a watch clicking and ticking off the time of day; then the whole world would be changed and would be a wonderful place in which to live.

The President of your state society has outlined and planned a program for the coming year. The full cooperation of each member of the Council and members of all appointed committees is essential for the success of this program. He cannot do it alone—it requires teamwork. So it is with any organization, business or corporation; if those in charge do not get full cooperation of all those under him, a complete success cannot be obtained.

There was a time when the physician was considered the leader in every community: in religion, in education, in government, and in the profession. But he is rapidly losing that leadership. He is still the best educated and best trained man in the community. He is not losing his leadership because many others also are well educated. He is losing his leadership because he is not cooperating to the fullest extent with his professional brethren, and with other members of the community to promote a better and fuller society. I am afraid we are thinking too much about self interests rather than the interests of our common fellow man. Any person who enters a profession primarily for self-interest and monetary gain has missed his calling. He should travel the road alone. If each physician lived and worked according to the professional standards, taught by our forefathers, there would be no need for emergency lists, no appeals in the local press for a doctor. There are enough to go around. No, I am afraid we are looking for too easy a seat. Too many wish to be specialists and get to the top of the ladder too quickly. We are not willing to cooperate.

We should cooperate with the health officer of our community by reporting contagious diseases promptly in order that precautions might be taken to avoid the spread of further contagion. I recently visited a community where a mild form of infectious hepatitis has been going on since early Spring. The physician with whom I talked estimated there had been around a hundred and fifty cases in that town and surrounding territory. I was told not a single case had been reported to the state board of health. The physicians in charge did not think the patients sick enough to report This was

lack of cooperation with those in authority. I was afraid to draw blood in that community, not knowing who had and who had not been exposed.

If you live in a community which cooperates with the Red Cross Blood Program, give them your most hearty support. The free availability of blood contributes much to the physician in helping him to practice better scientific medicine. It means much to those who are sick and injured to be able to get quickly the proper amount and type of blood.

Cooperation is the key to success no matter what the undertaking. Cooperation should not necessarily destroy difference of opinion. Difference of opinion is often the spice of life and should lead to more unanimity of effort and success.

Yes, the medical profession should learn to work together for the betterment of the community and mankind and not only for self intere t. Then and only then may we expect to become leaders in society.

C. LYDON HARRELL, M.D.

EDITOR'S NOTE: Dr. Harrell of Norfolk is a former president of The Medical Society of Virginia and is now connected with the American Red Cross as Director of its Blood Center for the Tidewater Area.

PHYSICIANS CAN SELL AMERICANISM

PROMOTING a better understanding of the American system and its reasons for success is a sound way to combat socialization attempts. One Muncie, Indiana physician has outlined a plan telling how individual doctors can plug the American system.

Dr. Lall G. Montgomery calls his plan of action "The Physician Sells Americanism." He claims that his plan is an assembly of ideas now being put into practice by physicians in his area. His plan, combining public education and public relations, includes:

1. Making the doctor's waiting-room a "School for Americanism" with pamphlets, clippings and cartoons available for reading and on display.
2. Spending an extra minute talking with each patient and giving each patient something to take home—a pamphlet or a card with an Americanism slogan.
3. Joining one or more organizations which are working for a better understanding of Americanism.

Some state and county medical societies may wish to help their physician-members promote the American way of life by making pertinent literature available for distribution. It is vital, however, that such literature be very carefully selected—so that a well-meant PR project does not backfire.

THE PR DOCTOR
June 6, 1952

TREATMENT OF LEUKEMIA AND LYMPHOMA*

Charles L. Crockett, Jr., M.D.,
Roanoke, Virginia,
Donald Shotton, M.D.,
Lynchburg, Virginia
and
Byrd S. Leavell, M.D.,
University of Virginia Hospital,
Charlottesville, Virginia

In recent years several new agents have been developed and employed in the treatment of malignant diseases of the blood-forming organs.[1,2,3,4,5,6] Though these newer forms of treatment are encouraging and represent a definite advancement in this field. they are not the final answer, since they also exert an effect on normal tissues and as yet are not specifically localized to neoplastic cells. The latter effect is one aim of present cancer research. In this paper we will summarize these advances and indicate how they fit into present day management of leukemia and lymphoma.

In Table I those diseases which have a somewhat similar course, treatment, prognosis, etc., are grouped together. In Table II we have classified these conditions primarily on the basis of the cell type involved in an attempt to relate the solid tumor or lymphoma types to those manifested primarily by bone marrow and blood stream invasion, the leukemias. In Table III we have outlined the modes of therapy now in use.

Table I

Neoplastic Diseases of the Reticulo-endothelial System

I. Leukemia:		
1. Acute	Granulocytic	(Myeloblastic)
	Lymphocytic	(Lymphoblastic)
	Monocytic	(Monoblastic)
2. Chronic	Granulocytic	(Myelogenous)
	Lymphocytic	(Lymphatic)
II. Lymphoma:		
1. Giant Follicle Lymphoma		
2. Reticulum Cell Sarcoma		
3. Lympho-sarcoma		
4. Hodgkin's Disease:	Paragranuloma	
	Granuloma	
	Sarcoma	

Table II

Neoplasia of the Reticulo-endothelial System

Cell Origin	Local Tumor Growth	Blood Stream	Dissemination
Granulocytic	Chloroma	Leukemia	Acute Chronic
Lymphocytic	Lympho-sarcoma	Leukemia	Acute Chronic
Plasmacytic	Plasmacytoma	Multiple Myeloma	
Monocytic	Reticulum Cell Sarcoma	Leukemia	Acute Chronic
? Hodgkin's Disease			

Table III

Therapeutic Measures in Leukemia and Lymphoma

I. Irradiation:
1. X-ray
2. Radioactive isotopes (P^{32})
II. Chemotherapy:
1. Fowler's solution
2. Urethane
3. Folic acid antagonists (Aminopterin: A-methopterin)
4. Nitrogen mustard (H N 2)
III. Hormones:
1. ACTH
2. Cortisone
IV. Supportive:
1. Transfusions
2. Antibiotics

From the Dept. of Internal Medicine, University of Virginia Hospital, Charlottesville, Virginia.

*Read before the annual meeting of the Medical Society of Virginia at Virginia Beach, Virginia, October, 1951.

IRRADIATION

X-ray: X-ray remains the most available and often the most effective form of therapy. Therapy is usually given to local tumor masses in doses of 100 to 300 r for a total of 1000 to 3000 r. Local irradiation to the spleen in doses of 600 to 1500 r is indicated when splenomegaly is prominent. Whole body or spray irradiation with a total series dose of 50 to 100 r is occasionally used and gives considerable body ionization.

Radioactive Isotopes: Radioactive phosphorus P^{32} is the most effective one of these agents in use at present. P^{32} accomplishes its effect through two mechanisms:

1. Phosphorus metabolism is one and one-half to two times as great in tumor as in normal tissue.

2. Much of the P^{32} retained in the body is eventually deposited in cancellous bone where it may deliver radiation to the bone marrow.

The technique of P^{32} therapy must be individualized and the amount required to induce a remission initially in chronic leukemia is five to fifteen millicuries given orally or by vein, preferably the latter. Dose is determined by the leukocyte count and the other clinical features. Excessive dosage will result in extensive bone marrow damage and pancytopenia. P^{32} is provided by the Atomic Energy Commission to approved institutions.

CHEMOTHERAPY

Fowler's Solution: This agent has been used in the treatment of leukemia since 1865 and continues to be an acceptable method of treatment. The active agent in this preparation is 1 per cent arsenic trioxide, though its mechanism of action is unknown. Initial dosage should be 4 to 5 minims three times daily, gradually increasing to an effective dosage which in some cases may be as much as 40 minims daily. It should be given immediately after meals, well diluted. Nausea, diarrhea, herpes, keratosis, cirrhosis and polyneuritis are the toxic effects one may encounter.

Urethane: This chemical is a general cytoplasmic poison which inhibits neoplastic tissue growth but may also produce bone marrow aplasia and toxic hepatitis. Unfortunately the production of anorexia, nausea, vomiting, and diarrhea in many patients limits its use. Dosage ranges from 2 to 6 grams daily in enteric-coated capsules. The leukocyte count should act as a guide to dosage and duration of the therapy. It may also be given intramuscularly or intravenously.

Folic Acid Antagonists: Several substances differing only slightly in chemical structure from folic acid have been developed which interfere with the normal cellular metabolism of the hematopoietic and gastro-intestinal systems. Folic acid is apparently converted to a substance "citrovorum factor" which is probably essential for purine metabolism. These chemical antagonists interfere either with this factor or folic acid itself. Aminopterin and A-methopterin are the drugs that have been most widely used. Aminopterin is given intramuscularly in doses of 0.5 to 2.5 mg. per day until remission is achieved; then maintenance therapy may be used or therapy stopped until relapse occurs. The margin between successful depression of leukemic proliferation and toxic dosage with fatal hemorrhage and oral or gastro-intestinal tract ulceration is very narrow and these drugs are still restricted to institutional and investigative use. The toxic effects may be blocked with folic acid or "citrovorum factor" but the antileukemic effect is also obviated.

Nitrogen Mustard: This agent is an outgrowth of the mustard gas used in World War I and is now widely accepted as a valuable adjunct to the therapy of Hodgkin's disease. Methyl-bis (Beta-chlorethyl) amine hydrochloride (HN2) is the most satisfactory of several forms investigated and is now available commercially. Upon going into solution and being injected, it combines with body tissue, to inactivate certain enzyme systems and produce cellular death.

The technique of administration is as follows:

(1.) An infusion should be running freely in the vein; (2.) 0.2 mg. of HN2 per kilogram of the patient's body weight is dissolved in saline and injected into the tubing of the infusion immediately, since the effect of the drug is dissipated within five minutes. This dosage may be repeated the next evening, since the usual course is 0.4 mg./kilo. There is usually transient nausea, vomiting, and diarrhea. Bone marrow depression occurs between the seventh and the fourteenth days but is seldom serious unless there was preexisting depression of the marrow, in which case the 0.4 mg. dosage should probably not be used. In the skin it will produce necrosis.

Tricthylene Melamine (TEM): This substance resembles nitrogen mustard chemically and in its action on neoplastic tissue. It has the advantage of being an oral preparation with very slight gastro-intestinal disturbance, but is more dangerous because bone marrow depression is more profound and more prolonged. Dosage, therefore, has to be very carefully controlled. We give 5 to 10 mg., wait a week, and check the leukocyte and platelet count, particularly before giving the next week's dosage. Moderate therapy may be conducted over prolonged periods with the dosage adjusted according to the patient's tolerance as determined by blood count.

Hormones

ACTH and Cortisone: Among the many amazing effects of these hormones, their effect in acute leukemia may be as striking as any. Their mechanism of action is unknown, but it does not appear to be through general tissue toxicity or destruction. Thus, if one obtains a response with these hormones, instead of suffering bone marrow depression and toxicity to the gastro-intestinal tract, the patient usually shows a reticulocytosis with correction of anemia, return of leukocytes and platelets toward normal, and a general improvement in appetite, weight and morale.

ACTH is given 25 mg. every six hours intramuscularly; or may be given intravenously over an eight hour period of each day in a dose of 10 to 20 mg., the latter method being more economical. 100 to 200 mg. of cortisone per 24 hours either intramuscularly or by mouth in divided dosage may be employed and for maintenance therapy 50 mg. per day orally may be adequate. Therapy with these hormones should be given until a good remission is obtained and one should probably treat the patient at least two weeks before stopping the drug because of apparent lack of response. If eosinophile counts and clinical features indicate no adrenal response to ACTH, cortisone should be tried. The chief toxic effects are salt and water retention, blood pressure elevation, and mental disturbances. They are hazardous to use in the presence of tuberculosis, peptic ulcer, cardiovascular disease and known emotional instability. A low sodium diet is important and supplementary potassium chloride 6 to 8 grams per day may be given orally.

Supportive

A discussion of the management of these diseases is not complete without mention of general and supportive measures. Transfusions should be used freely to control anemia since the usual hematinics are of no value. Splenectomy is indicated in the occasional patient who has a marked acquired hemolytic anemia in association with some type of lymphoma or chronic lymphocytic leukemia. Antibiotics have aided considerably in the control of infections. Protamine and toluidine blue have been disappointing in controlling the hemorrhagic manifestations. The psychological management of patients with these disorders is extremely important, since the outcome is inevitably fatal but the *time* of the outcome quite variable and most difficult to predict when the patient is first seen.

We have attempted to summarize the more pertinent facts about the newer therapeutic agents available for the treatment of leukemia and lymphoma. The role that these agents play in the practical management of such patients is becoming fairly well defined now and in the ensuing paragraphs and Table IV we will outline the management of these specific conditions.

Table IV
Summary of Methods of Choice in Treatment of Leukemia and Lymphoma

I. Acute Leukemia:
1. ACTH and Cortisone
2. Folic acid antagonists, in children only.
II. Chronic Leukemia:
1. Irradiation (X-ray and P^{32}) principal form of therapy.
2. Urethane, T E M, Cortisone and Fowler's adjunctive measures, in properly selected patients.
III. Myeloma:
ACTH, Cortisone and Urethane sometimes of value.
IV. Lymphosarcoma, reticulum cell sarcoma and Giant Follicle Lymphoma:
1. X-ray most effective.
2. H N 2 and T E M, ACTH and Cortisone occassionally helpful.
V. Hodgkin's Disease:
1. X-ray most effective.
2. H N 2 and T E M also effective as supplementary therapy.
3. ACTH and Cortisone occasionally helpful.

Acute Leukemia: Therapy of this condition involves a certain amount of philosophical considera-

tion. Life is often prolonged several months and made more comfortable with therapy. ACTH and cortisone are certainly the agents of choice and remissions though usually brief, may be expected in over half the patients treated. In children, aminopterin and A-Methopterin may be used and over 50% will go into a remission of one to over 24 months in a few isolated cases. The toxic manifestations are often severe, however, and careful watch must be kept for them.

Chronic Leukemia: We induce the initial remission in these patients with P^{32} or x-ray. If their platelets are not especially low and the marrow is cellular, P^{32} is a quick, simple, inexpensive way of treating such patients. The patient is spared a long period of X-ray therapy with its attendant reaction, unpleasant effects, and greater economic factor. On the other hand, X-ray to large nodes or a markedly enlarged spleen may be preferable and of course more generally available. One may get long remissions after such courses of therapy or one may choose to try and keep the disease under control without relapsing periods by giving small doses of P^{32} as the leukocyte count begins to get to the 100,000 level; or by giving Urethane, TEM, or occasionally Fowler's over a long period. Some cases of chronic lymphocytic leukemia in older persons are quite benign and require little or no treatment for long periods. In chronic granulocyte leukemia the prognosis is usually one to five years.

Multiple Myeloma: In the more malignant forms of this disease characterized by heavy marrow infiltration with very early myeloma cells, we prefer ACTH or cortisone. In those forms showing more mature plasma cells, good results are often achieved with Urethane. All therapy is often disappointing.

Lymphosarcoma, Reticulum Cell Sarcoma, and Giant Follicle Lymphoma: These conditions are all best treated by X-ray. When they become refractory, some of these patients will be definitely benefited by HN_2, TEM, ACTH, or cortisone. The rare cases of local bowel involvement deserve radical surgery of course.

Hodgkin's Disease: Our plan of treatment for patients with this condition is to give them a course of nitrogen mustard or use X-ray to local areas such as spleen, peripheralynodes, mediastinum, etc., as indicated at the time of initial diagnosis. Subsequently, for constitutional symptoms such as fever, sweats, and pruritus we use HN_2. As definite masses, or splenomegaly recur we use X-ray to these areas, often in combination with HN_2 again. As the patient seems to become refractory to these measures, TEM may be used and rarely ACTH or cortisone. In patients who have only cervical adenopathy when first diagnosed, radical neck dissection may be attempted followed by HN_2 and X-ray. This is particularly worthwhile if the histological diagnosis on the biopsy is paragranuloma.

SUMMARY

With the development of newer agents to supplement X-ray, there has been definite improvement in the overall therapy of leukemia and lymphoma. The prognosis in patients with chronic leukemia or one of the lymphomas ranges from a few months to 15 or 20 years and so one must not adopt a fatalistic attitude toward these conditions but treat them energetically and expectantly. Lengthy remissions and prolongation of useful life will often be the result. It is necessary that in all of these conditions general supportive therapy be maintained and antibiotics and transfusions still are important adjuncts to therapy.

Radical surgical excision should be carried out if the disease is thought to be localized and is accessible since surgery alone offers the only hope for a permanent cure. The psychological management of patients with these diseases is quite important.

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EXPERIENCES WITH THE FEMORAL HEAD PROSTHESIS IN RECONSTRUCTIVE SURGERY OF THE HIP*

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We are presenting our experiences with a new method of treatment of ununited fractures of the neck of the femur and severe arthritis of the hip. For non-union of femoral neck fractures, a wide variety of procedures has been used, ranging from bone grafting through many varieties of osteotomies, to reconstruction procedures such as the Whitman, Brackett, or Colonna, and even to arthrodesis of the hip. The variety of procedures itself indicates that the results are not uniformly successful. Furthermore, the post-operative care usually requires prolonged immobilization which is not desirable in the elderly patients who have the vast majority of these fractures.

In the case of arthritic hips with ankylosis or severe pain, vitallium cup arthroplasty after the manner of Smith-Petersen has been successful in the hands of Smith-Petersen but many others have been disappointed in their results. Furthermore, the operation, to be well done, is prolonged and tedious, and therefore unsuitable for the patient who is only a fair risk.

The first experimental work on a femoral head prosthesis was done by Bohlman in 1929. In 1940, Bohlman and Moore inserted a vitallium prosthesis for a giant cell tumor and shortly after that, Hudack and McBride did similar work. Judet and Judet in France have reported on over 400 cases since 1946, done for fractures, arthritis, and even congenital dislocation of the hip. At present many orthopædists are designing some modification of a prosthesis. The materials used range from vitallium and stainless steel to acrylic plastic and nylon.

Types of Cases Treated

This is a report on 12 hips operated upon in 12 patients. Two hips were operated on a second time making 14 operations. There were 7 cases of fracture of the femoral neck and there were 5 cases of chronic arthritis. Of these latter, two were osteoarthritis, one was a rheumatoid arthritis, and two appeared to be arthritis following slipped upper femoral epiphysis and avascular necrosis. The two osteoarthritis cases had motion but severe pain, making walking difficult. The rheumatoid arthritis case had bilateral bony ankylosis, the fourth case had fibrous ankylosis plus pain, and the last had some motion but severe pain. The ages ranged from 16 to 68. There were three females and two males. Of the 7 cases with fractures, all were females, ages 53 to 74. The interval following the original fracture varied from 6 weeks to 11 months. One case never had any treatment for her 8 months old fracture, and 6 had Smith-Petersen nail fixation which was unsuccessful because of non-union, avascular necrosis, or just extrusion of the nail with displacement of the fracture.

The Prosthesis

Five different types of prosthesis have been used. All were metal, either stainless steel or vitallium. Two types were three piece with a head, stem, and plate to be fixed to the shaft with screws. These were the Jaenichen-Collison (fig. 1) which was used three times, and the Lorenzo prosthesis (fig. 2) which was used one time. Both of these are stainless steel. Three types were one piece. One of the modified Judet prosthesis (fig. 3), has a hemispherical head with attached triflanged stem having the appearance of a Smith-Petersen nail which is driven in retrograde manner down the femoral neck and through the lateral cortex of the shaft. This was used three times. Another, the Fred Thompson prosthesis (fig. 4), has a head which is fully rounded, a neck section, and a stem which is smooth and curved and is driven down the medullary canal. This was used five times but had to be removed and replaced by another type in two cases which will be discussed in more detail later. These latter two types were both of vitallium. The third one piece type was the Eicher prosthesis (fig. 5) which also has a fully rounded head and a neck section but the intramedullary stem is heavier and flanged to prevent rotation in the

*This paper presents essentially the same material shown in the exhibit offered by the authors at the annual meeting of The Medical Society of Virginia at Virginia Beach on October 7-10, 1951.



Fig. 1.—Lorenzo three piece prosthesis.

medullary canal. This type is stainless steel. It was used one time (in our last case).

THE OPERATION

The operation varied with the type of prosthesis. The first two types required (1) exposure of both hip joint and outer surface of the femoral shaft and (2) a number of special instruments. The latter three types required only exposure of the hip joint (except for a very short incision for removal of the Smith-Petersen nail, if present) and the operation could be done without special instruments. The operation was at least twice as long with the three piece types as with the one piece. The joints were exposed in 2 cases through an antero-lateral incision but the other 10 were done through the Smith-Petersen approach. In all cases the femoral head was removed, the stump of the neck was made smooth, the femur was brought into external rotation to receive the new head, and a proper size head was selected and attached to the femur in the manner indicated for the type of prosthesis. The dislocation then present was reduced and the joint capsule and all layers of the wound were sutured. In no case was the acetabulum reamed, although reaming was considered in one case. An associated adductor tenotomy was done in one case. In 5 cases a plaster boot with a cross bar was applied to maintain the leg in internal rotation.

In regard to post-operative care, these patients were kept in bed with external rotation prevented for 9 to 10 days. Then a rope and pulley were fixed from an overhead frame with a sling to allow exercises of abduction and some flexion. They were allowed up in a chair at about 2 weeks, and began walking with a walker or crutches at 2 to 3 weeks.

There were three significant complications. Two resulted in failure, necessitating a second operation. In one case a longitudinal fracture of the neck occurred in dividing it. Although this was fixed with screws, post-operative X-rays showed that the stem of the prosthesis passed out through the fracture line instead of remaining in the medullary canal and the head was too large to fit completely within the acetabulum. In another case, dislocation occurred 4 weeks post-operatively. Both these complications occurred with the Fred Thompson intramedullary stem type of prosthesis which had to be removed and replaced by the Jaenichen-Collison three piece type. A third complication was a fracture of



Fig. 2.—Jaenichen-Collison three piece prosthesis.

the femoral neck without displacement while driving this same type prosthesis home. This delayed partial weight bearing for 4 weeks and full weight bearing until 8 weeks post-operative. There was also one hematoma in the wound which drained for about 5 weeks. There were no infections.

Results

Of the 12 patients, 11 are ambulatory. One of the arthritic cases is reported to be confined to bed and unable to return for follow-up examination.

The 7 fracture cases have been followed 2 to 12 months. The one which dislocated is being kept on one cane and one crutch at 6 months post-operative. The most recent case uses one crutch. The other 5 are able to walk a short distance without cane or crutch, but one was using a walker and two used a cane or crutch most of the time. One used a cane or crutch part of the time. Only one usually walked without any support. Three had a mild abductor type of limp. One had no pain, and six had mild pain. In only one did pain occasionally interfere with sleep. Three had good motion and four had fair motion.

Of the four arthritis cases able to come for examination, excluding one failure confined to bed, one used one crutch and three used two crutches. Two had good motion and two poor. All four cases had only mild or occasional pain.



Fig. 3.—Modified Judet type one piece prosthesis.



Fig. 4.—Fred Thompson intramedullary stem type prosthesis.

Discussion

It is realized that the period of follow-up for these cases is very short and the long term results are unknown. The total number of cases is not large and the number of cases of each type of prosthesis is even smaller. Although we are not able to draw any definite conclusions, there are certain impressions which we have received so far. The procedure appears to be especially useful in the elderly hip fracture unsuccessfully treated with Smith-Petersen nail fixation. It appears to leave less residual pain than most of the older procedures. In arthritic hips, it is a much easier procedure than cup arthroplasty. It appears to result in less pain, but we have not been impressed with the range of motion.

In regard to the choice of prothesis, we have had no experience with the plastic or nylon types whose principal advantage is apparently a certain amount of resilience and whose disadvantages are invisibility in X-rays, and unsuitability for heat sterilization. The one piece type appears to be by far the most technically simple to insert and therefore appears



Fig. 5.—Eicher intramedullary stem type prosthesis.

more suitable for the elderly patient. The vitallium prostheses also have the advantage of being light because of the hollow construction of the head. The modified Judet type is the least expensive of all five, being less than half the cost of some of the others. This one is especially suitable for the case in which adequate length of neck is preserved A prosthesis with a neck section, such as one of the intramedullary stem types, is preferred for the many fracture cases in which most or all the neck has been absorbed. However, one of these, the Fred Thompson type, appears to have a tendency to rotate in the medullary canal, especially when the head is forced back into the acetabulum at the close of the operation. The three piece type with plate and screws is difficult to insert, is expensive, and appears to have no advantage in the average case. It may have a use where, for some reason, the one piece types cannot be used, as for instance where the cortex of the neck or shaft has been badly fractured during the process of removing an arthritic head. It is well to have two or three different head sizes sterile and ready to use at each operation.

In regard to the complications encountered, it is felt that many of these can be avoided by proper selection of prosthesis and more understanding of the problem.

SUMMARY

This has been a report on 12 cases in which a femoral head prosthesis has been used as a new method of reconstructive surgery of the hip. Seven cases were for old femoral neck fractures, and five were for arthritis of several types. Five different types of metal prosthesis were used. Although the long term results are as yet unknown, it is felt that the method shows promise of being a valuable advance in the treatment of ununited femoral neck fractures and of certain types of arthritis of the hip. The one piece type of prosthesis, either the modified Judet or the intramedullary stem type, appears to be preferable to the three piece type. A characteristic of the 11 cases which could be followed was the uniformly minimal degree of pain.

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THE TETRALOGY OF FALLOT—
Diagnosis and Surgical Treatment

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Five patients with the Tetralogy of Fallot treated by shunt operations comprise the basis for this report. These patients have been studied in the Congenital Heart Clinic of the Outpatient Department of the Medical College of Virginia. The clinical features and diagnostic aids which permit the differentiation of this condition from other types of cyanotic congenital heart disease are discussed. These five cases illustrate the gratifying palliation which may be expected from surgical treatment.

Historical

Sandifort in 1777 described a boy who had been "livid since he was a year old." This case is cited by Peacock[1] as one of the first reports on this type of congenital heart lesion. Peacock in his book published in 1866, reported 18 cases. Fallot[2], two years later, described in detail the four pathologic features of this condition—pulmonary stenosis, overriding aorta, ventricular septal defect, and right ventricular hypertrophy. Maude Abbott[3] did not classify her cases exactly according to Fallot's grouping, but she described 151 cases of pulmonary stenosis in her report on 1000 congenital cardiac lesions.

This syndrome is compatible with life for a number of years unless the pulmonary stenosis is of an extreme degree. Of all cyanotic infants who survive the first year of life more than half will fall into this group.

The fact that these babies do well in utero and have no cardiac enlargement at birth had an important bearing on the development of the shunt operation and the treatment of this condition. Taussig and Blalock[4] appreciated the significance of the patent ductus in relation to the well-being of these individuals during intrauterine life and as a result developed an operation in which a systemic vessel was used to shunt blood to the lung fields. This was in effect an artificial ductus. These authors first described their procedure in May, 1945. In November, 1946, Potts, Smith and Gibson[5], by using a special clamp, were able to anastomose the pulmonary artery directly to the aorta. Brock[6,7] and more recently Glover and Bailey[8] have approached the pulmonary stenosis more directly. Entering through the wall of the right ventricle they perform a valvulotomy or an infundibular resection.

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Diagnosis

The clinical features result from the diminished pulmonary blood flow and the admixture of venous and arterial blood in the systemic circulation. Cyanosis is almost always prominent. This dates usually from birth or the first few months thereafter. Cyanosis is clearly visible in the nail beds and mucous membranes and may be intense, especially after exercise or crying. Attacks of dyspnea and fainting are not uncommon in infants and may be initiated by some minor incident, such as feeding, defecation, or crying. At an early age the child learns that he is somewhat relieved by squatting and that the attacks may thus be aborted. Often as the ductus closes at a few months of age the child's condition becomes worse.

Clubbing of the extremities results from the oxygen unsaturation of the arterial blood. It may become apparent at a few weeks of age but is usually not prominent until after cyanosis is well developed. The small build of the child and the slow gain in weight roughly parallel the degree of arterial unsaturation.

As a result of secondary polycythemia thromboses are common; the occurrence of this complication emphasizes the importance of avoiding dehydration. One of our patients developed a right hemiparesis at four months of age, probably due to a thrombosis.

Table 1 illustrates the clinical features in our

five cases. Three cases had other congenital defects consisting of a bifid thumb in one case, clubbed feet in another, and microcephaly in the third.

TABLE 1
SYNOPSIS OF CLINICAL FEATURES

Cyanosis—age first noted	1 month to 24 months
Clubbing noted	6 months to 3 years
Degree of Dyspnea	severe 3
	moderate 2
Paroxysms Dyspnea	yes 4
	no 1
Retarded Growth	marked 2
	moderate 3
Squatting	yes 4
	no 1
EKG	Rt. strain 3
	Rt. axis 2

In the Tetralogy of Fallot the total heart size is usually not increased. However, hypertrophy of the right ventricle is always present and may cause some prominence of the left chest. A rough systolic murmur, often with a thrill, is found at the second left interspace. The pulmonic second sound is usually weak. These cardiac findings vary, depending on the degree of pulmonary stenosis and the size of the septal defect, and are usually not as important in the diagnosis as the general clinical features, radiologic and laboratory studies.

The blood picture consistently shows a polycythemia with red blood cell counts from six to twelve million and with a correspondingly high hematocrit.

The roentgenogram of the chest reveals a heart of about normal size, usually with a concavity in the region of the main pulmonary artery, and lung fields which are abnormally clear. With fluoroscopic study the prominent right ventricle is well seen in the right anterior oblique position; lung fields appear quiet. The aortic arch is found on the right side in about twenty-five per cent of all cases and may be located by its indentation of the esophagus as determined by barium swallow.

The electrocardiogram consistently shows a right ventricular preponderance and often strain. Peaked P waves are frequent. T waves will depend on the condition of the myocardium.

Arterial oxygen saturation as determined chemically or by the oximeter is considerably reduced below normal and decreases further on exercise. Administration of 100 per cent oxygen by mask produces only a slight elevation in the arterial oxygen saturation.

The decholin circulation time is usually shortened as a result of the over-riding aorta and right to left intracardiac shunt.

Angiocardiography may yield valuable information in the differential diagnosis of cyanotic congenital heart disease. In the Tetralogy of Fallot the over-riding aorta and the pulmonary artery fill almost simultaneously. The actual stenosis is not often visualized. The presence and size of the pulmonary arteries can be determined. Angiocardiography may be very hazardous in the poor risk patient and should be used only to clarify the diagnosis or to help the surgeon determine the most suitable operative procedure. Angiocardiography was used in one of our cases.

Cardiac catheterization studies indicate an increased pressure in the right ventricle. If the catheter can be passed through the stenosis a decreased pressure will be found in the pulmonary artery. Blood oxygen values in the right ventricle exceed those in the right auricle, thus indicating some intermixing of blood through the interventricular septal defect.

DIFFERENTIAL DIAGNOSIS

The Tetralogy of Fallot must be differentiated from other conditions characterized by cyanosis. In the newborn, atelectasis, congenital pulmonary disease and occasionally intracranial hemorrhage may cause cyanosis. Patients with Fallot's Tetralogy rarely show much cyanosis until a few weeks or months of age. By that time the diagnosis of congenital heart disease can easily be established.

When pulmonary atresia exists in the Tetralogy of Fallot, the patient's condition deteriorates rapidly in the early weeks or months of life, as the ductus closes. Only rarely are the bronchial collateral arteries sufficient to maintain life. The technical difficulties involved in the creation of a shunt for these infants are great, but not always insurmountable.

Pure pulmonary stenosis without the over-riding aorta or ventricular septal defect but often with an auricular septal defect is attracting the interest of the cardiologist and surgeon since it is also an operable lesion. The condition is characterized by a very large heart and by cyanosis which increases as the patient grows older. Angiocardiography shows de-

layed emptying of the right ventricle and a prolonged opacification in the post-stenotic dilatation of the pulmonary artery.

In Eisenmenger complex cyanosis usually begins in adolescence. The lung fields appear extremely full and the main pulmonary artery is prominent on the roentgenogram.

Transposition of the great vessels causes a large heart and deep cyanosis in infancy. Life depends on additional congenital lesions such as septal defects or a patent ductus. Narrowing of the great vessels in the PA film and widening of the supracardiac shadow in the lateral view strongly suggest the diagnosis of transposition. Angiocardiography may provide conclusive information.

A common truncus, a single ventricle or non-functioning right ventricle are rarer congenital defects associated with cyanosis which are not usually compatible with life for more than a few weeks.

Among patients in the cyanotic group who survive the first few years of life, the Tetralogy of Fallot, pure pulmonary stenosis with an auricular defect and Eisenmenger complex are the major diagnostic considerations.

Surgical Physiology

The major physiologic disturbances in the Tetralogy of Fallot which cause anoxemia consist of a marked reduction in pulmonary blood flow and a right to left intracardiac shunt, through which a large quantity of venous blood is released into the systemic circulation. The volume of the shunt depends on the caliber of the pulmonary stenosis and the extent of over-riding of the right ventricle by the dextroposed aorta. Since the pulmonary obstruction limits any increase in pulmonary artery flow the right to left intracardiac shunt is enhanced by exercise and other factors which cause an increased cardiac output.

Several compensatory phenomena reduce the anoxemia or alleviate its effect. The polycythemia of cyanotic heart disease increases the oxygen carrying capacity of the blood. A highly desaturated venous blood is returned from the capillary bed, indicating greater oxygen extraction by the tissues. Bronchial and other mediastinal arteries inevitably enlarge and serve as collateral pathways to the pulmonary capillaries. Strangely enough the ductus arteriosus usually fails to remain open and its closure, though somewhat delayed, may precipitate a crisis in the life of the patient.

From a physiologic standpoint certain requisites must be satisfied before a Blalock or Potts shunt operation can be recommended in congenital cyanotic heart disease. The syndrome of the Tetralogy of Fallot satisfies these requisites. In this condition the blood flow and pressure in the pulmonary artery are abnormally low, so that a systemic to pulmonary artery shunt may be expected to raise these values towards normal levels. The differential in pressure between the systemic and pulmonary circuits serves to maintain patency of the anastomotic lumen. On the other hand, the Blalock operation, although possibly improving arterial oxygen saturation somewhat, would be most inappropriate in Eisenmenger complex where values for pulmonary artery blood flow and pressure already exceed the normal.

A second important consideration concerns the degree of arterial oxygen desaturation in the systemic circulation. The Blalock operation reduces the anoxemia only by shunting desaturated blood into the pulmonary bed for more complete oxygenation. As an example of a congenital heart lesion with greatly reduced pulmonary artery blood flow which, however, is not benefited by the Blalock operation, one may cite isolated pulmonic stenosis with a closed foramen ovale. Here the systemic blood is completely oxygenated. Although a shunt increases the pulmonary flow in this anomaly, the severe obstruction to the right ventricle remains unrelieved, while the burden of an artificial ductus is imposed on the left heart. Even when isolated pulmonic stenosis is accompanied by a patent foramen ovale or an interauricular septal defect with anoxemia resulting from the right to left shunt, the Blalock operation is contraindicated although anoxemia may be improved. The resulting increase in pulmonary flow causes a rise in the left auricular pressure which decreases the right to left intracardiac shunt and leads to right heart failure.

Since only a portion of the desaturated systemic blood can be diverted through the pulmonary circuit after a shunt operation for the Tetralogy of Fallot, a normal state of arterial oxygenation can never be attained. Nevertheless, with a patient at rest anoxemia is greatly reduced, and on exercise the increased demand for oxygen is more nearly matched as the

flow through the artificial ductus rises with increasing cardiac output. Although slight cyanosis may be observed on exercise, patients experience a remarkable improvement postoperatively in their exercise tolerance.

Chief criticism of the Blalock operation has focused on the creation of an artificial ductus which imposes an additional burden on the heart without correcting the underlying abnormalities. The serious potentialities of this situation cannot be denied, but thus far the reported instances of heart failure following operation apparently have resulted from its use in atypical cases of the Tetralogy of Fallot, especially in the presence of marked dextroposition of the aorta, or in incorrectly diagnosed cases. The creation of an over-sized shunt may lead to pulmonary edema. A long period of observation will be needed to determine whether the presence of the ventricular septal defect and over-riding aorta may in some manner minimize the ill effects of the artificial ductus. A few instances of bacterial endarteritis at the anastomotic site have been reported, but these have responded well to antibiotic therapy. Fortunately the burden of the shunt is reflected chiefly on the left heart which is not otherwise strained in the Tetralogy of Fallot. The additional work load assumed by the heart manifests itself by a moderate degree of enlargement during the first three to six months postoperatively, after which no further enlargement usually occurs.

Valvulotomy and Infundibular Resection

The successes obtained by pulmonary valvulotomy in the treatment of isolated valvular pulmonary stenosis have stimulated a few surgeons to attempt a direct attack on the site of obstruction in Tetralogy of Fallot. The obstructing diaphragm of valvular stenosis may readily be approached through the chamber of the right ventricle and incised with the proper valvulotome (Brock operation). Whereas the obstruction in isolated pulmonary stenosis is usually valvular in type, this situation is encountered much less frequently in the Tetralogy of Fallot, perhaps in not over thirty-five per cent of cases. Other anatomic types of pulmonary stenosis found in the Tetralogy of Fallot include a subvalvular stenosis high in the ventricular outflow tract, a low subvalvular stenosis with a large infundibular chamber intervening between the stenosis and pulmonary valve, hypoplasia of the pulmonary artery with bicuspid valve and a long stenotic muscular channel in the outflow tract. More than one site of obstruction has often been found.

To the surgeon who is tempted to try the direct attack on pulmonary stenosis but wishes to maintain a respectable mortality rate some of these types present a real challenge. Nevertheless, in suitable and carefully selected cases resection of subvalvular stenosis offers the decided advantages of increasing the pulmonary flow as well as reducing the right to left intracardiac shunt, while avoiding an artificial ductus. It should be pointed out, however, that the pathologic situation created by the Brock procedure closely resembles Eisenmenger complex, a condition in which the life expectancy is limited to twenty or thirty years. The degree of cardiac enlargement occurring soon after the Brock procedure closely approximates that following a shunt procedure. Attempts to select suitable cases for the Brock operation by determination of right ventricular pressures at multiple levels in the outflow tract after cardiac catheterization are laborious and subject to many errors. Two other methods may be utilized. Angiocardiography assists the surgeon in recognizing in advance some of the valvular stenoses and serves to delineate large infundibular chambers, when present. Cinefluorography may increase the accuracy of this diagnostic measure. Direct inspection at the operating table of the pulmonary outflow tract and artery, the direct determination of pressures and instrumental probing provide the maximum information obtainable with present methods. Discussion of this controversial topic will not be carried further since in all of our cases a shunt was constructed.

Operative Indications

The prognosis in the Tetralogy of Fallot without treatment is extremely bad. Campbell[9] has pointed out that only one out of four patients survives to age fourteen and only one out of ten to age twenty-one. The disability during life is great. The indication for relief through surgery is therefore clear. However, surgical treatment should not be undertaken on children under two years of age unless survival without treatment appears extremely unlikely. The mortality in this age group exceeds twenty-five per cent, whereas a mortality well under ten per cent may be anticipated in patients between the ages of

three and twelve. Likewise, patients with the Tetralogy of Fallot over twenty years of age are usually extremely poor surgical risks. Accurate diagnosis in the newborn and young infant may be especially difficult. The development of compensatory phenomena such as polycythemia and collateral circulation may permit the patient to withstand the operative procedure better at a later date. The technical problems are of far greater magnitude in tiny infants, and vessels of adequate size may not be available for anastomosis. Growth of the anastomotic lumen is restricted by non-absorbable, continuous sutures and consequently a shunt which seemed adequate for an infant may prove insufficient in later childhood. This constitutes an additional reason for delaying the operative procedure beyond infancy, if possible.

The shunt operations have not been used exclusively for Tetralogy of Fallot. In certain cases of tricuspid atresia, in truncus with bronchial arteries and in single ventricle associated with marked pulmonary stenosis, some benefit can be obtained from the operation.

Preoperative and Operative Management

Patients with polycythemia display a considerable tendency to spontaneous thrombosis. In the preoperative preparation therefore, adequate hydration should be maintained to reduce the threat of postoperative thrombosis in the brain or at the anastomotic site. These patients frequently exhibit fever due to low grade pulmonary infection, and administration of antibiotics in the preoperative period often establishes a normal temperature. Digitalis is indicated for patients with evidence of cardiac failure. The presence of much cardiac enlargement or of failure, however, suggests an atypical Tetralogy, isolated pulmonary stenosis, or some other type of congenital heart disease which may respond unfavorably to a shunt procedure.

Blood loss, unless extreme, should be replaced by plasma, since the decrease in polycythemia reduces the possibility of postoperative thrombosis. Hypotension and shock also predispose to thrombosis at the anastomosis by decreasing blood flow through the shunt. Prophylactic anticoagulant therapy is unnecessary and dangerous, however. Only in the event of a cerebral thrombosis or thrombosis at the anastomotic site should anticoagulant therapy be instituted.

Anesthesia

Patients with the Tetralogy of Fallot present serious anesthetic problems. Intelligent handling depends not so much on the selection of a particular anesthetic agent or technique as on adherence to certain general principles.

Preoperative medication is most important and must be individualized to achieve the desired purpose without undue depression. The children must be brought to the operating room in a drowsy, calm state. Because of their low cardiac reserve, they are not able to adjust to an increased demand for oxygen imposed by excitement, crying, or increased metabolic activity. After proper sedation, it will frequently be noted that the degree of cyanosis is somewhat decreased, due to the lessened demand for oxygen.

Anesthesia must be induced quietly and smoothly so as to avoid anoxia which might result in increased susceptibility of the myocardium to severe arrhythmias and other difficulties during the operative procedure; anesthesia must be maintained by a means which allows the administration of a high percentage of oxygen. The technique must allow rapid control of the depth of anesthesia and lung expansion and must provide adequate ventilation. At certain times during the operative procedure complete control of the patient's respiration must be assumed to provide proper working conditions for the surgeon. Hyperthermia has been observed in many children undergoing surgery; in these patients it is mandatory to avoid any elevation in body temperature. This can be accomplished by the use of ice packs or a water mattress to cool the patient. Adequate means for intravenous administration of drugs, fluid, plasma, and blood must be available. Control of arrhythmias which may result from anoxia or from increased vagal tone is accomplished by the slow infusion of procaine intravenously as a prophylactic measure. When an arrhythmia or bradycardia does develop, atropine in appropriate doses is given intravenously or several hundred milligrams of pronestyl are given slowly. During all the important phases of the procedure, continuous electrocardiographic tracings yield valuable information as to the cardiac status.

PRESENTATION OF CASES

The technical procedures utilized in the five cases in our series are summarized in Table 2. No cases

TABLE 2

OPERATIVE PROCEDURES

Name	Age	Location of Aortic Arch	Shunt
B.A.	5	R	Subclavian to left pulmonary artery
H.E.	6	L	Aorta to left pulmonary artery
M.R.	3	L	Subclavian to left pulmonary artery
R.B.	12	R	Subclavian to left pulmonary artery
R.K.	10	L	Subclavian to left pulmonary artery

needing surgery have been denied operation because of the potential risk involved. There have been no deaths, but the youngest patient requiring surgery was three years of age, a circumstance which undoubtedly contributed to the favorable results.

No serious operative or postoperative complications were encountered. However, one patient (B.A.) developed an ascending thrombophlebitis in the saphenous vein, originating at the site of phlebotomy. This was controlled by heparinization for ten days beginning on the seventh postoperative day. Another patient (M.R.) developed a fever of 103 degrees on the sixth postoperative day, which failed to respond immediately to antibiotics and for which heparinization was undertaken on suspicion of a septic thrombophlebitis. The fever subsided within a few days. The cause of the fever remains undetermined, although probably of pulmonary origin. The patient now represents one of our best results. This patient also developed a transient Horner's syndrome, a complication frequently encountered after mobilization of the subclavian artery. A third patient (R.B.), with hemiparesis since four months of age, exhibited convulsions on the fir t postoperative day. The immediate response to dilantin therapy led us to believe that these as well as the preoperative attacks were primarily epileptic in type. No additional neurologic deficit was noted subsequently. H. E. had advanced dental caries. He underwent complete dental extraction before discharge to reduce the threat of bacterial endarteritis from dental sepsis.

In general, the clinical improvement in these children has been extremely gratifying. From the standpoint of growth, nutrition, exercise tolerance, degree of anoxemia, and personality changes, the results have been judged as excellent in four and good in one. Several of the children now play actively in a manner which appears entirely normal for their age. The changes in weight, red blood cell count, hemoglobin concentration, and cardiothoracic ratio are tabulated in Table 3. In the majority a significant gain in weight has occurred. In three patients the red blood cell count and hemoglobin levels are now approximately normal. In the two patients (B.A. and R.K.) with the greatest degree of anoxemia preoperatively slight cyanosis and polycythemia are still present.

Cardiac enlargement has occurred in all patients, but is considered of moderate degree in four. In H. E., however, the cardiothoracic ratio is now fifty-nine per cent, a value which was reached within three months after operation. Because of this cardiac enlargement and because of the patient's failure to gain weight adequately, the clinical result has been rated as good only. The relief of anoxemia has been as striking in this case as in the others. A slight anemia now existing in this patient may be

TABLE 3

Name	Age	Postop. interval (mos.)	Weight		Red Cell Count		Hemoglobin		Cardio-thoracic ratio		Clinical Result
			Preop.	Postop.	Preop.	Postop.	Preop.	Postop.	Preop.	Postop.	
B.A.	5	16	34	42	9.3	5.9	24.0	15.6	52	55	Excellent
H.E.	6	13	34	36	6.5	4.3	21.5	12.8	52	59	Good
M.R.	3	10	24	28	6.2	4.8	18.0	14.8	52	54	Excellent
R.B.	12	8	81	88	7.4	4.7	20.5	14.0	50	56	Excellent
R.K.	10	6	63	70	9.0	5.8	28.0	17.0	48	53	Excellent

of dietary origin and related to his edentulous state.

The prognosis of these and similar patients must be guarded. The immediate results of palliative surgery appear to justify this method of treatment. There is an increased quantity of oxygenated blood available to these individuals and, as a consequence, there is less disability and a greater tolerance for activity. It is obvious that a severe disturbance in the circulation still exists after operation, which in no sense produces a cure. However, the patients are improved and, as such, pursue a relatively normal existence and become less of a burden to their parents. Only time will tell the ultimate benefits of this procedure. It seems reasonable to assume that the impairment in the circulation will reduce or postpone the fatal complications usually encountered in this disorder and thus increase the life expectancy of these individuals.

Summary

1. The diagnostic features and surgical physiology characteristic of the Tetralogy of Fallot are discussed.

2. The surgical management of this condition is considered.

3. Five cases are presented which illustrate the gratifying results which may follow systemic to pulmonary artery shunt operations.

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PR Tip of the Month

Psychologically there's a jagged break in the ideal doctor-patient relationship when a patient with a minor ailment is dispatched with a prescription after one visit to the doctor. "How can the doctor tell whether the medicine helped me or not?" wonders the patient. Many doctors solve this problem by handing such patients self-addressed postcards and asking them to report on their condition in a day or two. It's a friendly "let me hear from you" gesture.

The PR Doctor
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TRANSORBITAL LOBOTOMY IN REFRACTORY EMOTIONAL AND MENTAL DISORDERS— Report of 50 Lobotomies*

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Transorbital lobotomy is neither a substitute nor a replacement for the shock therapies, as the effectiveness of these methods remains unquestioned. There is, however a residuum of chronic emotional and mental disorders refractory to these usual therapies in which psychosurgery and in particular the transorbital lobotomy may be quite helpful.

Psychosurgery in its progress has seen numerous techniques evolve, notably the various modifications of the prefrontal lobotomy, gyrectomy, topectomy, thalamotomy, cortical undercutting, and the transorbital lobotomy. In common, the objectives of these various techniques has been the identification of the cortical area association-projection units that must be ablated or functionally modified in order to alleviate the symptoms of emotional and mental illness and at the same time not be accompanied by serious danger to the intellect, personality, or life of the individual.

The transorbital lobotomy meeting these requirements was first performed by Fiamberti in 1937[1] and later in 1946 introduced into the American field of psychosurgery by Freeman[2]. Freeman's 1949 modification of the transorbital lobotomy, accomplished "by means of a new twist termed the deep frontal cut"[3], at once extended the anatomical limits of the operation and significantly increased its clinical effectiveness.

Relief from the disturbing psychopathological symptoms is brought about in this operative procedure by the interruption of the continuity of a satisfactory percentage of thalamofrontal projection fibers underlying areas 9 and 10 of the prefrontal cortex as well as those entering the cortex of the orbital surface of the frontal lobes. It is in this manner that the subcortical emotional and autonomic centers are protected from cortical ideational bombardment.

The transorbital approach to lobotomy academically and practically appears to be the psychosurgical technique of choice because it is effective, simple, safe; is relatively free of complications; does not seriously impair the individuals initiative, drive or intellect[4,5]; or require lengthy periods of hospitalization and extensive postoperative rehabilitative efforts. Further, the technicalities of technique, personnel and equipment no longer offer serious obstacles in serving the individual patient, as the transorbital lobotomy may be performed by a doctor of medicine trained in the care and treatment of nervous and mental disease who has studied in the laboratory the anatomy of the frontal lobes and their relationship to the orbits[6]. The over-all mortality rate from transorbital lobotomy is less than two per cent. Postoperative epilepsy has not been reported. The activities of the ordinary home are sufficient and, in the majority of cases, preferable in bringing about a restitution of acceptable social, economic, and biological functions.

The transorbital technique has greatly facilitated the handling of certain psychoses, incapacitating psychoneuroses, and cases of intractable pain. Specifically, the operation is recommended when other indicated therapies have failed to alleviate such conditions as schizophrenia, the manic depressive psychoses, paranoid states, involutional melancholias, and severe incapacitating psychoneuroses. Contraindications include alcoholism, constitutional psychopathic states, and psychoses with organic brain disease.

A favorable result may be expected in those cases showing overt or symbolized anxiety, either as expressed by autonomic overactivity, or in the content of thought and behavior. Conversely, a delapidation of thought associated with a deterioration of affect, or diminished autonomic reactions, while not contraindicating the operation, suggest a poor result. It has been observed that the patient who derives some benefit from electrocoma therapy, or other therapies, and who does not remain well, i.e., the chronic relapsing patient or the one on a maintenance

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Read before the Sullivan-Johnson County Medical Society Meeting, Bristol, Tenn., May 7, 1952.

schedule, usually recovers. Lobotomy statistics vary widely, dependent upon the case material at hand. In general, state hospital patients are chronic patients and it may be said that following transorbital lobotomy one-third will show marked improvement, consistent with discharge to home care; that one-third will be improved and make better hospital patients; and that one-third remain unchanged. In earlier, more favorable cases, in whom the family maintains an active interest, more promising statistical results may be expected.

The decision for surgery is reached on the basis of positive psychiatric indications and the absence of contraindications as may be demonstrated in the history, neurological, roentgenological studies or the general medical survey. The family is informed of the unusual postoperative probabilities and their responsibility to the patient in the convalescent period. The patient, if not already a hospital patient, is hospitalized. The day prior to surgery repository penicillin is administered and continued daily for three days. I find it advantageous to prepare the patient for sodium pentothal anesthesia, as instances have arisen that require its use even though electrocoma has been selected as the anesthetic. In the majority of cases three to five electrocoma treatments, given in series, produce sufficient depth and length of anesthesia to complete the operation without undue haste. On occasions it has been necessary to give an additional electrocoma treatment after completing the first side. In the absence of local inflammations, conjunctivitis or sinus disease, no special treatment or preparation of the operative field is necessary as the bacteriostatic effect of the lacrimal fluid is sufficient.

The operative technique employed is as described by Freeman[7]. The upper lid is retracted and the leukotome (Fig. IA) is introduced into the vault of the orbit, 3cm., from the midline, posterior to the frontal sinuses, lateral to the ethmoids and anterior to the attachment of the ocular muscles. The instrument is oriented parallel to the bony bridge of the nose, in a frontal plane, and is driven through the orbital plate until the 5 cm. mark is opposite the margin of the upper lid. The handle of the leukotome is then pulled laterally in the same plane as far as the bony conformation of the orbit will permit, so as to sever the thalamofrontal fibers in the medial lower quadrant of the frontal lobe. It is then returned in the same plane to its original position parallel to the bony bridge of the nose. The point is then deviated slightly to the midline and a few more light taps force the instrument through the orbital plate to a depth of 7 cm. Again the instrument is carefully oriented in the frontal plane and the handle is deviated medially to barely touch the ala of the nose (20 degrees). It is then moved laterally 30 degrees and in favorable cases, withdrawn. These latter two maneuvers sever the thalamo-frontal radiation in the upper quadrants

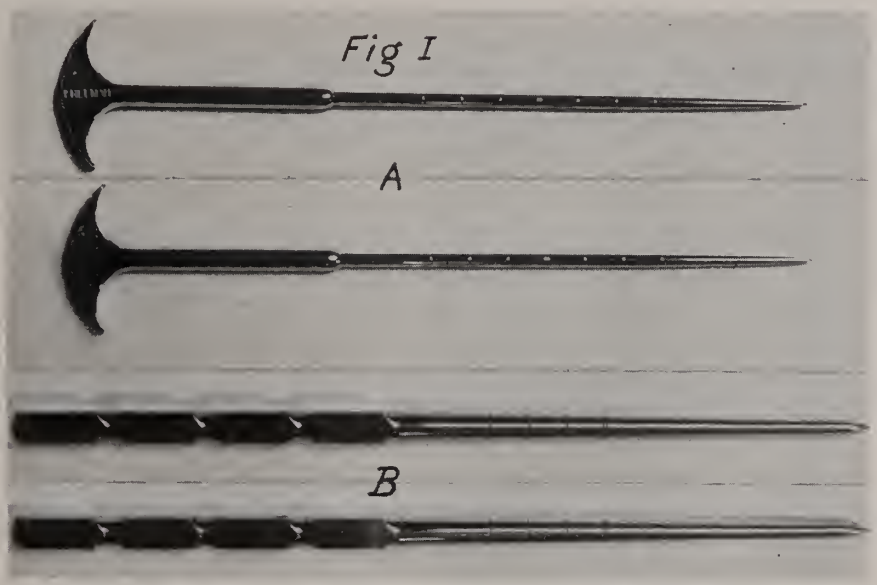


Fig. I.

of the frontal lobe (thalamo-frontal projection fibers underlying areas 9 and 10). In the more serious cases an additional maneuver directed toward the thalamic projections in the more posterior and basal portions of the frontal lobe is required. The handle parallel the orbital plate. In this maneuver the thalamofrontal fibers are severed as they bend around the anterior horn of the lateral ventricle and turn medially to enter the cortex in the vicinity of the gyrus rectus (Fig. II). If the orbital plate is heavy

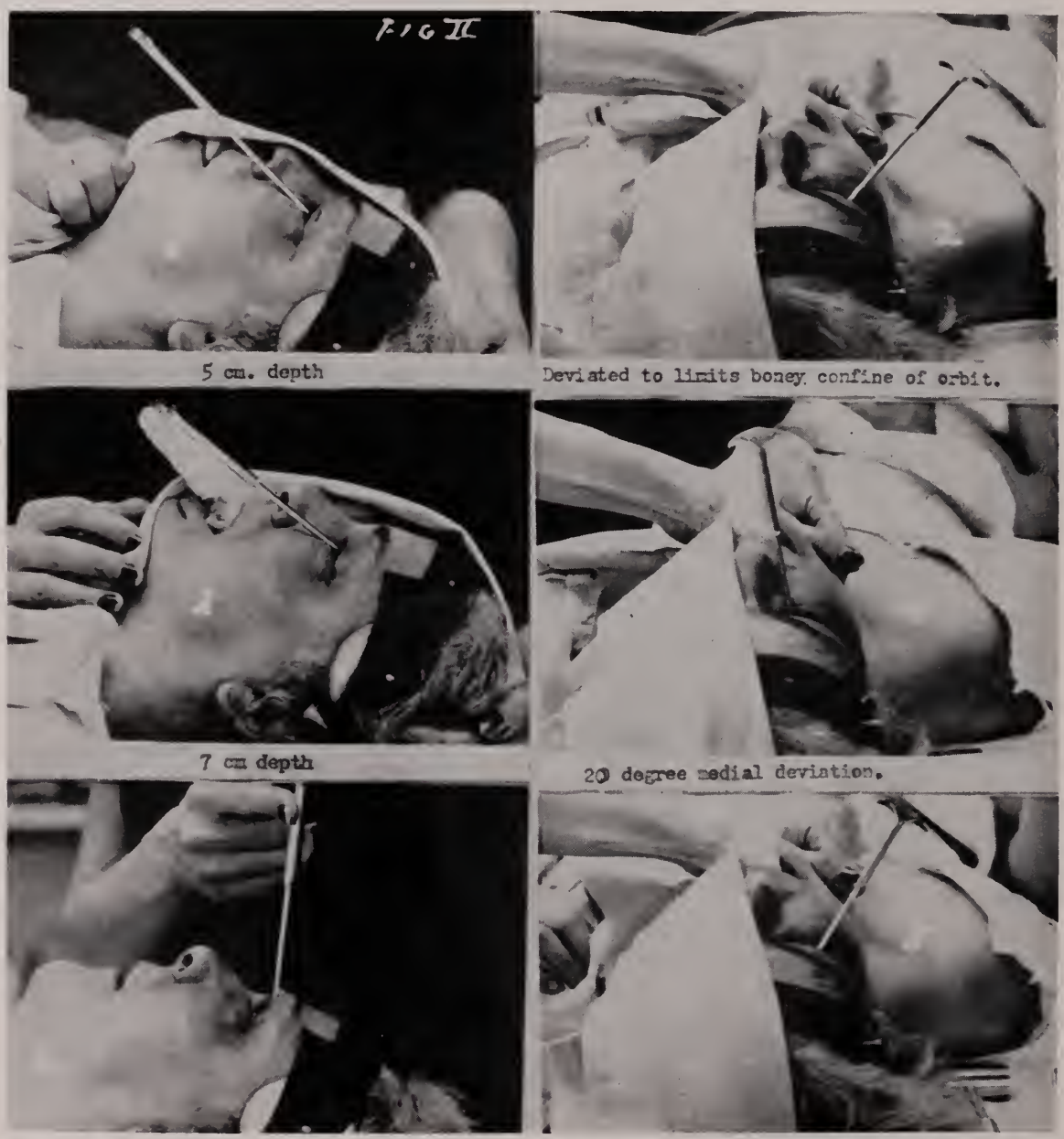


Fig. II.

of the leukotome is deviated to subtend a 30 degree angle to the midline. From this position, and maintaining the 30 degree angle deviation, the handle is slowly and evenly elevated fracturing the orbital plate allowing the shaft of the instrument to almost and tough, rendering it impossible to complete the deep frontal cut with the transorbital leukotome, then the orbitoclast (Fig. IB) is used to complete the maneuver.

Special nurses are frequently necessary for forty-

eight hours, as periorbital edema usually within one hour closes the eyelids, producing a mechanical blindness, lasting one to two days, which interferes with the patient's ability to contribute much to his own care. The temperature, pulse, and blood pressure determinations as well as neurological and surgical observations are made frequently. A drop in blood pressure to 80/60 is not unusual, and in hypertensive states a reduction of fifty per cent is average. Sedatives are omitted and given only on special order. Spontaneity is impaired and somnolence is the rule. Recognition and verbalization return in one to three hours and the patients are encouraged to converse. On occasions a moderate amount of disorientation and misidentification occurs, lasting from a few hours to a day or two. If, after the second day activity of the psychosis persists, electrocoma therapy is given in sufficient quantity to control the residual symptoms. Rarely will a patient require catheterization and occasionally one may be incontinent for a short while. Hyperesthesia of the lower extremities is characteristic, lasting from one to several days. In a few cases the Babinski reflex is positive. Unilateral ptosis of the eyelid due to injury of the tarsal cartilage requiring ten to fourteen days for recovery, occurred in two cases. One patient became somnolent on the third postoperative day, his blood pressure elevated and he quickly lapsed into coma. The spinal fluid under 200 mm. water pressure was xanthochromic and contained 25,000 red blood cells plus 2200 white blood cells with polymorphonuclears predominating. This complication was diagnosed as an intracerebral hematoma which had evacuated itself into the ventricular system. He recovered rapidly following spinal drainage. Death occurred in a fifty-eight year old female during the twelfth postoperative hour. During the eighth hour coagulum and blood were aspirated through a brain trochar introduced into the lobotomy wounds. Earlier irrigation and aspiration might have been more effective. Ambulation is begun on the second day and in favorable cases the patient is ready for surgical discharge on the third or fourth postoperative day to in-patient or out-patient neuropsychiatric observation.

During the convalescent period following the immediate recovery from surgery one encounters some degree of forgetfulness, uncertainty and hesitation which is overcome with a minimum of help and reassurance. In some instances a release of inhibitions associated with an increase in libidinal drive and a tendency to be outspoken or profane may characterize this phase of recovery. The average convalescence is easy and is not marked by any special trend other than relaxation, relief of tension, and a carefree attitude with the majority of the improvement occurring in six weeks. The operation is generally followed by the development of a more wholesome adaptive personality type, relieved of disorganizing fears, anxieties, obsessions, delusions and hallucinations. Practically all remarks made by those in position to observe, professional and lay alike, make such remarks as "a more wholesome personality, better than I have ever known him or her before, etc.".

My interest in the transorbital lobotomy developed from the backlog of "chronic shock cases" encountered in the handling of some five hundred and thirty psychotics principally on an ambulatory outpatient basis with electrocoma therapy. Of these, seven "maintenance" cases, ten relapsing problems and seventeen refractory cases have been selected for transorbital lobotomy. The remaining thirteen cases were derived from the following sources: Seven chronic problems were brought from a state hospital; five chronic and refractory cases were referred from sanatoria, and one pain case (tabes dorsalis, gastric crises) were operated from private practice.

In all, forty-seven cases in which fifty operations have been performed during a two year period, are covered in this report. Three cases were re-operated because a relapse occurred which did not respond to electrocoma therapy and all occurred in cases in which the deep frontal cuts were incomplete.

Diagnostically, the following conditions were encountered: Schizophrenia 28 (hebephrenics 3, paranoids 7, catatonics 12, mixed 6); manic depressive psychosis 7 (manics 2, depressions 5); psychosis with other somatic disease (serious depression and repeated suicidal attempts) 1; involutional melancholias 7; psychasthenics 2; psychosis with cerebral arteriosclerosis 1; tabes dorsalis 1.

The geriatric case and the tabetic may be dismissed with the statement that the course of the geriatric problem was uninfluenced by lobotomy and that the tabetic, although continuing to have gastric crises required only small amounts of codeine or

TABLE I

TRANSORBITAL LOBOTOMY

Schizophrenia

DURATION OF ILLNESS				RESULTS—1-24 MONTHS					Post Operative ECT	Returned to Former Occupational Status
2-12 Mos.	1-3 Yrs.	3-10 Yrs.	10+ Yrs.	A	B	C	D	E		
8				8	0	0	0	0	3	8
	5			2	2	1	0	0	4	3
		4		4	0	0	0	0	3	4
			11	4	6	1	0	0	7	5
Totals			28	18	8	2	0	0	17	20

Manic Depressive Psychosis

DURATION OF PRESENT ATTACK				RESULTS—1-18 MONTHS					Post Operative ECT	Returned to Former Occupational Status
	2-12 Mos.	1-3 Yrs.	3-10 Yrs.	A	B	C	D	E		
De-pressed	2			2	0	0	0	0	0	2
		3		3	0	0	0	0	0	3
			1	0	0	0	0	1	0	0
Manic	2			2	0	0	0	0	0	2
Totals			8	7	0	0	0	1	0	7

Involutional Melancholia

DURATION OF PRESENT ILLNESS			RESULTS—1-24 MONTHS					Post Operative ECT	Returned to Former Occupational Status
	1-3 Yrs.	3-5 Yrs.	A	B	C	D	E		
	5		5	0	0	0	0	1	5
		2	2	0	0	0	0	1	2
Totals		7	7	0	0	0	0	2	7

Psychasthenia

DURATION OF PRESENT ILLNESS			RESULTS—6-8 MONTHS					Post Operative ECT	Returned to Former Occupational Status
	1 Yr.	10 Yrs	A	B	C	D	E		
	1		1	0	0	0	0	0	1
		2	0	1	0	0	0	1	1
Totals		2	1	1	0	0	0	1	2
Total		45	33	9	2	0	1	20	36

A Without symptoms of Psychosis; *B* Marked Improvement; *C* Slight Improvement; *D* No Improvement; *E* Operative Death.

phenobarbital for relief, rather than his customary 2 grains of morphine.

Schizophrenia accounted for 62.2 per cent; of the remaining case material, however, this did not unfavorably influence the results, as we see (Table I) that of the 28 schizophrenics operated, 26 were either relieved of the symptoms of the psychosis or were markedly improved. The schizophrenics of one year or less duration are now free of symptoms of the basic psychosis, whereas only 50% of those over one years duration responded as well.

The manic depressive and involutional melancholia groups accounted for 14 cases and all achieved complete remissions, except for one case recorded as an operative death.

Postoperative electrocoma therapy was required in the handling of the residual symptoms in 44.4% of the tabulated cases with an incidence of 60.7% in the schizophrenics, 20.8% in the involutionals, 100% in the psychasthenics, and 0% in the manic depressives. The necessity to administer postoperative ancillary therapy in 44.4% of the operated cases, in order to bring about a successful conclusion, does not in my opinion minimize the importance of the transorbital lobotomy procedure. Quite to the contrary, cases previously refractory to electrocoma therapy or insulin coma therapy react extremely well to electrocoma therapy given postoperatively. In this manner an over-all satisfactory result has been obtained in 93.7% of the transorbital lobotomy patients.

The present status of the 47 cases operated (38 females, 9 males) is as follows: 2 are residents of a state hospital; 3 have deceased (one operative death, one geriatric death, and one death occurred when two months after operation electrocoma therapy was administered to control a relapse); 7 help around the home; 20 are housewives; 13 remain in public industry and 2 are self employed. Only two of those employed are employed at a lower occupational level.

It is of course recognized that this report is still in a fluid phase and continued observations with 5 and 10 year follow-ups will be necessary prior to final evaluation of the procedure; however, at this point, I do want to emphasize that one gains the feeling of a certain solidity in the permanency of cure in working with the transorbital patient.

Case Reports

Schizophrenia, acute, catatonic type: Case 1: D.K.C., age 30, W., F., housewife and clerical worker. No history of previous nervous or mental disorder. Acute onset of mental illness in September, 1949, characterized by odd, impulsive behavior, religious preoccupations, ideas of reference, the expressed belief that people were talking about her, her reputation, etc., delusions of persecution, auditory hallucinations, periodic catatonic stupors and excitements, lack of insight and impaired judgment. She received electrocoma therapy, AC technique times 46 from September, 1949, to February, 1950. While in an extreme degree of catatonic excitement, a bilateral transorbital lobotomy, with deep frontal cuts, was performed on February 10, 1950. She was rational and coherent the following day, and was discharged to home care on the third postoperative day. She has remained non psychotic, and is in excellent mental health. She is employed as housewife, and is now caring for her child born in August, 1951.

Schizophrenia, chronic, unclassified, and with marked anxiety and increased autonomic responses: Case 35: A.L., age 29, W., F. Committed patient, state hospital. Duration of illness 10 years with complete departure from reality in the past five years during which time she has for the most part remained completely inaccessible being preoccupied in her own world of fantasy, presumably suffering from auditory and visual hallucinations; talking incessantly, rapidly and incoherently—with anxiety featuring her behavioral and autonomic responses. In 1946, while in a private sanatorium, she received electrocoma therapy for several weeks, failed to respond to therapy, was committed to a state hospital in 1947, and remained in residence until furloughed August, 1951, for purposes of transorbital lobotomy. A hypnotic was administered in her home in order to facilitate her admission to the hospital for transorbital lobotomy which was performed on August 14, 1951. She was discharged from the hospital to outpatient care on August 20, 1951, and has shown no signs of activity of the former psychotic condition. Heterosocial and presumably sexual activity complicates her non-institutional life. Sterilization has been advised.

Schizophrenia, chronic, catatonic, without anxiety and with diminished autonomic responses: Case 34: S.E.P., age 36, W., F. Committed patient, state

hospital. Duration 8 years plus. Treated in sanatoria on four occasions 1943-47. Committed to a state hospital in 1947, at which time she is said to have been apathetic, seclusive, refused to eat at the table, destroyed her clothing and was completely out of contact with reality. Her hospital residence has been characterized by marked periods of disturbance, with intermittent periods of seclusion, retardation, refusal of food, and mumbling as if responding to auditory hallucinations. She was furloughed for purposes of transorbital lobotomy.

The preoperative examination revealed an apathetic, dull individual with immobile facial expression, blunted affective responses and a devastated vacuous personality. Anxiety could not be demonstrated either in the content of thought or in examination of the nervous system. Physically asthenic, with blood pressure of 85/56, and pulse of 74. Muscle tone poor and reflexes diminished. Physical status as hypotonic as her emotional reactions. Prognosis thought to be hopeless without lobotomy and possibly poor even with lobotomy.

A transorbital lobotomy was performed on August 8, 1951. All maneuvers were completed easily, except the deep frontal cuts, the handle of the leukotome being elevated only to about 50% of its maximum range. Following an uneventful convalescence she was discharged from the hospital on the morning of the 6th postoperative day. She was readmitted the same day, because she became combative, assaultive and made unkind remarks to her relatives and others in her presence. Four postoperative electrocoma treatments were given with marked improvement, and she was again discharged to outpatient psychiatric care. She received a total of twelve electrocoma treatments in the postoperative period with complete remission after the fourth treatment. She has remained well and now is employed as waitress in a local hotel.

Involutional melancholia: Case 41: L.F., age 62, W., F. Keeps home for daughter. Prepsychotic personality and personal history characterized by difficulty in intrapersonal relationships, introverted, distant, shy, difficult personality patterns, unhappy marriage, frequent quarrels, sexual frigidity, and death of husband occurring ten years prior to onset of present illness. First attack occurred at the age of 55, terminated by a spontaneous recovery. The second attack occurred four years later and was manifest by a mood depression, with feelings of guilt and unworthiness, self accusatory ideas "over evil in the past", of "not loving my children", nihilistic delusions concerning "evil in my stomach and of being dead", and complete lack of insight with impairment of judgment. She received thirty-five electrocoma treatments from March through July, 1949. The recovery was difficult and prolonged. A relapse occurred in November, 1951, with return of symptoms as above. In view of the difficult protracted recovery, and relapsing quality of the reaction, psychosurgical intervention was advised. A transorbital lobotomy was performed on November 26, 1951, and she was discharged to outpatient care on November 29. An uneventful recovery and convalescence followed with her general reaction characterized by ease of personality, return of interests, improvement of health, gain in weight, acceptable economic and social patterns, and freedom from the symptoms of the psychosis.

Manic depressive psychosis, manic type: Case 32: E.V.L., age 44, W., F., secretary. Increase in severity of attacks and decrease in time interval between attacks with the development of a perpetual state of hypomania, subject to periodic exacerbations. Duration 10 years. Attacks characterized by increased psychomotor activity, euphoria, grandiosity, elation, flight of ideas, repetitive delusion of "falling in love with my employer", marked impairment of insight and judgment. There is a past history of six or more admissions to various neuropsychiatric hospitals with attacks moderated by electrocoma therapy. A transorbital lobotomy was performed on July 26, 1951, and she was discharged to outpatient observation on the fifth postoperative day. On the tenth postoperative day she returned to work as secretary in a small office and, after a proving time of two weeks, accepted her present position as secretary to an executive in the farm division of a local bank. She states "my mind is not impaired in any way. I do not work quite as fast as I formerly did; however, I can do more". She remains in a complete remission from manic or hypomanic activity.

Conclusions: (1) Transorbital lobotomy is an effective, economical and practical psychosurgical technique, recommended for the relief of the emotionally and mentally ill, refractory to other forms of therapy. (2) A series of 50 transorbital lobotomies

in 47 consecutive cases with a satisfactory therapeutic result in 93.7% is recorded. The expanded application of this technique may eventually bring about undercrowding rather than existing overcrowding in our mental institutions.

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Report Enzyme Helps Prevent Kidney Stones.

Hyaluronidase (an enzyme) mixed with isotonic sodium chloride solution has aided in the prevention of kidney stones, it was reported in a recent J.A.M.A.

A study of 24 persons in whom kidney stones previously formed at a rapid rate showed that injections of the drug under the skin every 24 to 48 hours prevented the formation of new kidney stones and prevented further growth of existing stones in 19 cases (79 per cent). In four patients (16.6 per cent), the size of the existing stones became smaller and less dense.

The article stated that it is generally accepted, although not conclusively proved, that the formation of kidney stones is the result of the clumping together of crystalline matter in the urine. Ordinarily, this is prevented by the presence of a colloidal material which coats each crystal. This coating prevents any tendency toward clumping. In patients with a tendency toward kidney stones, hyaluronidase seems to promote this coating of the crystals.

The effect of the drug is manifest within 30 minutes and persists for 24 to 72 hours. The dosage varies according to individual needs. Adequate dosage is essential, it was pointed out, as insufficient dosage might result in the exact reverse of the intended purpose. In contrast to many other medications, an overdose of hyaluronidase does not produce adverse effects.

The article was prepared by Arthur J. Butt, M.D., Pensacola, Fla.; Ernst A. Hauser, Ph.D., Cambridge, Mass., and Joseph Seifter, M.D., Philadelphia.

ALLERGY: AN ATTEMPT TO MAKE THIS PROTEAN CONDITION MORE UNDERSTANDABLE TO THE UNINITIATED

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Liaison between allergists and other members of the medical profession, and between allergists and laymen, has never been as satisfactory as it should be. Allergy has always, in the minds of some, been surrounded by misconception, and shrouded in misunderstanding. At times entirely too much has been expected of clinical allergy, while at others, far too little has been anticipated. Clinical allergy has never attained its rightful and deserved position in either medical or lay circles. During the pioneer days of the early twenties allergy became the ugly duckling of specialization. However, the thirties and forties witnessed its transformation into a true Cinderella. Now it would appear that this charming Miss is undergoing a certain degree of deglamorization, and all because of a lack of down-to-earth understanding of what clinical allergy really is, and what it truly seeks to accomplish.

It is with the hope that a more practical and realistic understanding of the nature and ambitions of clinical allergy may be attained by all, that this paper is written.

WHAT IS ALLERGY?

In attempting to answer this question one should be mindful of both the broad and more restricted interpretation of the meaning of allergy.

In 1906 von Pirquet[1] coined the term "allergy" which he defined as changed or altered capacity to react. This is a cellular rather than a humeral phenomenon. Usually the reaction is bizarre, and the site is ofttimes unpredictable. Thus the ingestion of egg in one individual may cause asthma or mucous colitis[2], while the same food in another may produce eczema, migraine, or even cardiac arrhythmia[3], depending upon the location of the affected shock (sensitized) organ (tissue cells). The reaction always occurs in previously sensitized cells. Not infrequently an antigen (allergen) -antibody mechanism can be demonstrated. However, in many instances of clinical allergy specific antibodies cannot be found. Classical examples of allergy without demonstrable specific antibodies are: contact dermatitis, certain drug allergies, some cases of urticaria and angioedema, bacterial allergy, and most cases of migraine.

Sir Thomas Lewis's[4] histamine theory to explain the phenomena of anaphylaxis and allergy, has been accepted by most competent observers. This assumes that the union of antigen and antibody in the shock tissue produces cell injury, with resulting liberation of a histamine-like substance (H-substance), which in turn produces the anaphylactic or allergic response. Furthermore, Grant and his associates[5] showed that parasympathetic impulses, acting through the mediation of acetyl-choline, may cause the release of H-substance.

Formerly it was believed that only protein substances were capable of producing allergic reactions, but now we know better. Nonprotein agents may combine with the recipient's blood serum, or even with macerated or diseased tissue, to form a combination protein and nonprotein antigen. This is called a hapten[6]. Haptens are capable of producing the allergic reaction. Furthermore, subsequent reactions may be caused by the nonprotein element alone. A number of nonprotein drugs are allergenic because of their ability to form haptens.

THE BROADER CONCEPT OF ALLERGY

von Pirquet's definition of allergy is intrinsically broad. The application of this concept that all instances of altered capacity of cellular reaction indicate the presence of allergy, is, in the writer's opinion, one of the main hindrances to complete understanding and acceptance of allergy by the uninitiated. But this principle we must accept, for this is truly allergy in its broadest aspect. Thus, one finds a great number of clinical conditions alluded to as being allergic in origin, or at least influenced by allergic factors. Such a list might include tuberculosis, tularemia, scarlet fever, contact dermatitis, erythema nodosum, erythema multiforme, purpura, acne, canker sores, acute gastro-enteritis, mucous colitis, cylic vomiting, appendicitis[7], hematuria, cystitis, arthritis, epileptiform variants[8], Meniere's syndrome, blood dyscrasias, erthroblastosis fetalis, retinal edema, keratoconjunctivitis, vernal

catarrh, thrombo-angiitis obliterans[9], coronary artery disease, arrhythmias, cardiac asthma, hypertension, Löffler's syndrome, fatigue, depression, allergy to insects, allergy to parasites, allergy to chemical agents, allergy to physical agents, allergy to emotional stimuli, *et cetera*.

Contact dermatitis is an intriguing condition which presents interesting industrial and economic problems. It attacks from without, and involves only (except in the event of complications) the epidermis. Antibodies have not been demonstrated, but there is always a latent period between initial exposure and the appearance of symptoms. Schwartz[10] and Waldbott[11,12] have made significant contributions to the recognition, diagnosis, and etiology of these conditions.

Collagen Disease

Collagen disease includes a group of clinical conditions in which one finds various, and sometimes widespread, stages of connective tissue changes. Because connective tissue is so abundant in all arteries, as well as various other organs, collagen deterioration has been referred to as diffuse arteritis, or mesenchymal disease.

Histologically, the connective tissue system is composed of cellular elements, fibrils, and a homogenous ground substance. The cells are fibroblasts, eosinophiles, plasma cells, pigment cells, and fat cells. The white, or collagenous fibrils, are the outstanding characteristic constituents. When boiled down with water connective tissue yields animal glue or gelatin, hence the name collagen.

When injured, connective tissue shows great powers of regeneration. The response to injury may be localized, as in the case of keloid, while at other times it may be widespread and caused by minimal stimulation. The changes noted are swelling and enlargement of the fibrils, together with proliferation and degeneration of the cellular elements. The fibrils become fragmented, refractile, and matted together. This is referred to as fibrinoid degeneration.

It is thought that fibrinoid degeneration may occur as a result of many and apparently unassociated causes: toxic metabolites, allergy to drugs, shock, endocrine imbalance, foreign protein injection, and even the aging process.

Criep[13] lists eleven disease entities under the general grouping of collagen disease. These are serum disease, lupus erythematosus disseminatus, Libman-Sachs syndrome, scleroderma, rheumatic fever, rheumatoid arthritis, periarteritis nodosa, dermatomyositis, nephrosclerosis, sclerema neonatorum and thrombo-angiitis obliterans. He calls attention to the fact that lupus erythematosus has occurred in man following the injection of foreign serum; that periarteritis nodosa has been demonstrated in man both after the injection of foreign sera and the administration of sulfonamides, and that the possible allergic basis of rheumatic fever is suggested by some of its allergic concomitants, namely, urticaria, eosinophilia, and erythema multiforme. In summary, he states in part: "There is some evidence, both clinical and experimental, which indicates that the development of some of these conditions may be closely related to the phenomena of hypersensitiveness."

Kerr[14] feels that one or more strains of beta-hemolytic streptococcus are all-important etiologic factors in rheumatic fever, and that the silent period following the initial symptoms in the pharynx suggests the probability of the mediation of some immune mechanism in this disease. He points out that antibodies to the streptococcus are increased during this period.

The writer has observed the development of one case of fatal periarteritis nodosa in a middle aged woman, while being treated with fairly large daily doses of benadryl for urticaria and angioedema.

Comment

Many of the conditions discussed thus far, and especially those associated with fibrinoid degeneration, are not amenable to conventional anti-allergic methods alone. The allergist, unless he is also a competent internist, frequently finds that he is unable to cope with the vagaries of many of these diseases. At times the ideal combat team may consist of allergist, dermatologist, pediatrician, internist, gastro-enterologist, neurologist, surgeon, medical specialist, surgical specialist, roentgenologist and endocrinologist.

The new hormones, ACTH and cortisone, are frequently helpful, and sometimes effective, in the management of the collagen disease group. The antibiotics are also signally useful in the management of certain members of this group. We still have much to learn about the pathogenesis and therapy of many of these conditions.

ATOPY (ATOPIC ALLERGY)

During the third decade of the present century, Coca[15] gave us a new term to delineate certain of the allergic conditions. Atopy, taken from the Greek, means "strange disease". Heredity is a determining factor, and appears to follow the probability of Mendelian transmission.[16] In the neighborhood of ten per cent of all peoples are affected. Specific antibodies (reagins) are the sensitizing agents, and their presence can be demonstrated by the Prausnitz-Kustner technic of passive transfer. Skin tests are reliable in ten to ninety per cent of those examined, and in the majority of instances, above sixty to seventy per cent. However, hay fever is probably the only condition solely atopic; i.e., in every instance symptoms are the result of contact between a non-bacterial substance (pollen) and tissues specifically sensitized to it.

These conditions consist of: bronchial asthma, hay fever, perennial allergic rhinitis, atopic dermatitis (infantile eczema), some cases of urticaria, angioedema, migraine, purpura and gastro-enteritis. These are the conditions the allergist prefers to see, for these are the diseases he is best prepared to diagnose and to treat successfully. It has been stated that eighty to ninety per cent of atopic individuals should get eighty to ninety per cent relief with proper treatment.

TREATMENT OF ATOPY

Ideal management of these cases still consists, fundamentally, in the employment of specific measures based on history, physical examination, clinical laboratory studies, x-rays, observation, and skin tests. Actually, management usually involves diet, hyposensitization, and avoidance. These measures, to be adequately effective, must be carried out over a period of months or even years. Some must learn to live with their allergies throughout a lifetime. Not infrequently the use of certain drugs for symptomatic relief is indispensable.

Recently, in some quarters, it has become common practice to treat most cases of atopy with drugs alone, and particularly with some of the newer ones: antibiotics, antihistamines, ACTH and cortisone. This does not, in the opinion of most competent allergists, constitute either adequate or satisfactory treatment.

Feinberg[17] finds that the antihistamines are relatively ineffective in asthmatic conditions as compared with epinephrine, aminophylline, iodides and the like. Furthermore, he feels they are not to be trusted in allergic emergencies, and that they do not eliminate the necessity and desirableness of specific diagnosis and treatment.

Cooke *et al*[18] following comprehensive and well controlled clinical studies of the effects of ACTH and cortisone in asthma, dermatitis, and urticaria, report a favorable symptomatic response in practically all cases during their administration, but that this effect lasted only a short time after the drugs were discontinued. They concluded that adequate allergic studies, in these cases, are as imperative as ever. However, they also feel that the value of the temporary respite offered by these preparations should not be minimized.

Friedlander and Friedlander[19] found that orally administered cortisone (cortone) is readily absorbed from the gastro-intestinal tract, and is equally as effective as intramuscularly administered cortisone. In their experience, hay fever, asthma, urticaria, atopic dermatitis, and contact dermatitis were often completely relieved, and the onset of such improvement was more rapid than with the parenterally administered drug. They feel that close supervision of these patients is imperative so as to avoid the sometimes dangerous side effects of this type of hormone therapy.

One might cite many more similar studies and conclusions from the recent medical literature. The concensus is that the newer hormones are quite useful in the management of certain phases of the allergic state, and that they are particularly adapted to control critical episodes in the course of these diseases. On the other hand, it is equally evident that these newer drugs should not supplant the time-honored technics of allergic diagnosis or specific treatment. They should be regarded as decidedly worth-while adjuvants. They should not be administered indiscriminately or without adequate knowledge concerning contraindications, and untoward, and sometimes critical, side effects.

The antibiotics are indispensable in treating certain of the allergic conditions listed above in the discussion of the broader concept of allergy. They are also our most effective weapons against certain of the collagen group of diseases. Whereas they do not

affect the atopic conditions *per se,* they are most useful in the control and cure of certain complications, chiefly bacterial and viral infections.

Summary

1. It is to be feared that the ideals, implications and ambitions of clinical allergy have been grossly misunderstood. This may be due primarily to the all-embracive nature of this protean condition.

2. An attempt has been made to explain the nature of allergy, and the immunological mechanism through which it usually functions.

3. For the sake of better orientation, and the hope for clearer delineation, the subject has been discussed under (1) the broader concept of allergy, (2) collagen disease, and (3) atopy. Universally known and accepted members of each of these arbitrary groupings have been designated and discussed.

4. It seems obvious that the best interests of the atopic patient are served when he is studied and treated in accordance with the time-honored technics of skin testing, hyposensitization, and avoidance.

5. The indications and contraindications for the exhibition of some of the newer drugs have been regarded in the light of the experience of competent observers in the field of allergy.

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END-RESULTS IN OPERATIONS FOR FUSION OF THE LOWER SPINE

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Reports of results from surgical fusions of the lower back have been very numerous in medical literature for the past several years. New techniques for spinal fusion are reported with rather frequent regularity. There apparently is a wide variance of opinion regarding indications for fusion and management of the patient post-operatively. These differences of opinion make it difficult to truly evaluate the reported end-results obtained. The following study was undertaken to evaluate, for our own information, the end-results obtained in operations for fusion of the lower spine, in what we believe to be ideal conditions for selection of patients and post-operative care and management.

The patients included in this survey were treated at McGuire Veterans Administration Hospital, Richmond, Virginia. All cases of spinal fusion operations for relief of low back pain for the year 1948, 1949, and the first six months of 1950 are included. Those cases having spinal fusion for tuberculosis of the lower spine have not been included in this report. A minimum of one year since operation has lapsed in all cases, with the follow-up on some being over three years. All patients were evaluated by X-rays at least six months after operation and also by personal interviews and by follow-up letters. While the total number of patients is not large, we believe the results obtained are very significant and demonstrate, at least to us, that good results from fusion of the lower spine are dependent on many very important pre-operative and post-operative factors.

SELECTION OF PATIENTS:

The Orthopaedic Service of this hospital is staffed by a Resident House Staff and supervised by Consultant and Attending Orthopaedic Surgeons. The latter are all Board Diplomates from the teaching staff of the Medical College of Virginia, Richmond, Virginia. All patients included in this study were examined personally by two or more of the visiting Orthopedists, prior to operation. All patients had an intensive course of conservative therapy before a decision for operation was made. This included immobilization in a spica cast extending from the nipple line to just above the knees for a period of four weeks. If a patient became symptom free with conservative treatment, but developed a recurrence of symptoms in spite of a brace, lumbosacral support, exercises, etc., he would be considered as a candidate for spinal fusion. It was obvious to us that if a patient could not be made symptom free by complete rest and immobilization, that no benefit could be reasonably expected from surgical fusion of the lower spine. Those patients who were pension candidates for service connected disabilities of the low back were not considered as good candidates for spinal fusion. If there was a question as to the advisability of a spinal fusion, the opinions of several of the Attending Orthopedists were obtained before a final decision for operation was made.

OPERATIVE TECHNIQUE:

A modified Hibbs type spinal fusion was done on all patients in this study. Spinal anesthesia was used in the majority of cases. A few were anesthetized by sodium pentothal induction followed by endotracheal intubation. The area of spinal fusion was exposed by a midline incision and the soft tissues subperiosteally reflected from the spinous processes, posterior surfaces of the lamina and from the posterior aspect of the first two sacral segments. The articular facets of the involved vertebrae were exposed on both sides. The spinous processes were split longitudinally and removed. All cortical bone was removed from the posterior surfaces of the laminae and the posterior cortex of the first two sacral segments. After decortication of all exposed bony surfaces of the fusion area, linear segments of cancellous bone were placed between the articular

surfaces of the facets. The entire fusion area was then covered completely with several layers of matchstick size cortical and cancellous bone. In about half of the cases, supplemental autogenous bone was taken from the posterior iliac area and in the remaining cases, supplemental homogenous cancellous bone was used from the Bone Bank. At approximately seven days post-operatively the sutures were removed and a spica cast applied from the nipple line to just above the knees. We have found that delaying the application of the cast for several days made the patient much more comfortable in the immediate post-operative period and prevented a great deal of abdominal distention.

Post-operative Management:

Nearly all patients remained in the hospital for a minimal period of ten weeks following operation. During this period they were placed on a gradually increasing course of exercises to strengthen the lower back. Each patient was allowed to be ambulatory on a wheeled litter and was provided with a pair of walking canes to propel the litter about the wards and to other parts of the hospital. The physiotherapist on duty on the ward supervised each patient daily in the carrying out of back strengthening exercises. The patient remained in the cast for an average period of nine weeks. Following removal of the cast, a further regime of back exercises was given, with instructions to continue all exercises for an additional period of two months. No external back supports or braces were used following removal of the cast.

Figure 1

Total Number Patients	44 (all male)
Average age:	35 years
Youngest patient	22 years
Oldest patient	56 years

Average length of immobilization following operation—9 weeks.

Figure 2

Indications or Reasons For Operation.

Unstable lumbosacral joint. (congenital anomalies, etc.)	19
Spondylolisthesis	18
Hypertrophic arthritis of lumbosacral spine	2
Old compression fracture of lumbar spine	1
Pseudoarthrosis of previous spinal fusion	4
Total	44

Figure 3

Area of and Length of Operative Fusion

L-4 to sacrum	39
L-3 to sacrum (all for spondylolisthesis at L-4)	4
D-12 to L-4 (for compression fracture at L-2)	1

Results:

In evaluating these patients we have attempted to determine what the result has been from a clinical and X-ray standpoint, but, more importantly, what has been the result as far as the patient himself is concerned. With these factors available, we have then attempted to correlate the clinical result with the patients functional result.

Pseudo-arthrosis, as demonstrated clinically, and by X-rays (made in flexion and extension and right and left lateral bending) was present at the end of six months *in eleven of the forty-four cases, or a percentage of 25%.*

Each patient in this series was then contacted either personally or by letter and asked to evaluate the result of his operation into one of the following categories:

1. The operation has cured my back pain.
2. The operation helped, but did not cure my back pain.
3. The operation only slightly improved my back pain.
4. The operation did not change my back pain.
5. The operation made my back pain worse.

The results from this personal survey were as follows:

Figure 4

Patient's Evaluation of Result Obtained.

Group I	7	15.8%	Cured
Group II	19	43.1%	Improved
Group III	5	11.4%	Slightly improved
Group IV	6	13.6%	No change
Group V	4	9.1%	Worse
No reply	3	6.8%	

From the patient's standpoint, approximately 70% were improved by their operation. We were then interested to know the opinion of the patients in those cases with clinical and X-ray evidence of pseudo-arthrosis. Replies were obtained from each of these patients, and are as follows:

FIGURE 5

Group I	1	9%	Cured
Group II	1	9%	Improved
Group III	2	18%	Slightly improved
Group IV	5	45%	No change
Group V	2	18%	Worse

From these figures it is apparent that of the ten patients (figure 4) who classed the results obtained as unsatisfactory, pseudo-arthrosis was present in seven of these cases. It is very interesting that two patients with pseudo-arthrosis felt that they had been definitely improved by their operation.

In those patients with a successful result from a clinical and X-ray standpoint, the patient's personal opinion of the results was as follows:

FIGURE 6

Group I	6	Cured
Group II	18	Better
Group III	3	Slightly improved
Group IV	1	No change
Group V	2	Worse
No reply	3	

Here, again, we believe it is apparent that the good results obtained in the great majority of cases are directly related to obtaining firm bony fusion in the area operated on for spinal fusion.

Much has been written about the advisability for spinal fusion in cases with clinical evidence of a herniated nucleus pulposus. In this series of forty-four cases there were eight patients who had exploration for a herniated disc which was followed by a spinal fusion operation (combined operation). In two of these eight cases the exploration was negative for evidence of a herniated disc. In the remaining six cases a herniated disc was found and removed. The end results obtained in these eight cases we felt were of interest. Fortunately, in all eight of these cases there was clinical and X-ray evidence of firm bony fusion of the operative area. In the two cases in which there was a negative exploration for a herniated disc both patients classed their end results as Group II (improved) which we feel is a satisfactory result. The remaining six cases, in which a herniated disc was found at operation, the end-results as classified by the patient were as follows:

Group I	1	Cured
Group II	3	Better
Group III	2	Slightly improved

We feel the results of the combined operations are satisfactory in that the purpose for which the operation was done, namely, relief of low back pain was accomplished and all patients were clinically improved.

SITES AT WHICH PSEUDO-ARTHROSIS OCCURRED

It is a recognized fact that the longer the area of spinal fusion, the greater is the possibility of occurrence of pseudo-arthrosis. Only five cases in this group of forty-four had an operative area of fusion greater than two vertebrae (not including the distal portion of the fusion area to the sacrum). The sites of pseudo-arthrosis occurring in the eleven patients in this group as determined by flexion and extension and right and left lateral bending X-rays are as follows:

Between L-5 and S-1	5
Between L-4 and L-5	5
Between L-3 and L-4	1

It would be unreasonable to expect every case operated on for a spinal fusion to obtain a solid fusion and a perfect result. However, considerable food for thought is provided when it is realized that, in this series of cases, all of whom had relatively the same operative technique and almost identical post-operative care, one out of every four failed to obtain the purpose for which the operation was undertaken.

DISCUSSION

It is to be emphasized that the only indication for operation in this group of patients was low back pain which could not be controlled by conservative measures. Prior to beginning this study, we were under the definite impression that the large majority of patients on whom operations of spinal fusions had been done at this hospital had been cured of their low back pain. This impression was probably brought about by the fact that we were seeing only the good results for follow-up. The poor or unsatisfactory results, had failed to return for check up or had wandered elsewhere in search of relief for their back pain. We honestly believe that from a standpoint of selection of patients, and pre-and post-operative care, ideal conditions exist at this hospital for treatment of cases requiring spinal fusion. Under the present policies of the Veterans Administration,

patients may be hospitalized for as long as considered necessary by the Ward Doctors and there is no restriction on expenditures for length of hospitalization, X-rays, braces, etc. The operations were carefully done under the direct supervision in every instance of an experienced Board Diplomate Orthopedist. Supplemental bone from the Bone Bank for full coverage of the fusion area was available. The patients remained in the hospital under direct supervision during their entire post-operative immoblization period. Under such ideal conditions, it is reasonable to assume that almost every patient would be definitely benefited. From a careful analysis of the results obtained, however, it is obvious that only 70% of these patients were better off after operation than they were before and in 25% of the patients, the purpose of the operation, namely arthrodesis of the operative area, was not accomplished. These results, we feel, are comparable to other reported results under similar conditions. We are forced to conclude that even with ideal conditions available for pre-operative selection and post-operative care of these patients, that arthrodesis of the lower spine will not be obtained in one out of four cases. The good results obtained in this small group of cases are definitely related to occurrence of a sound bony fusion of the operative area and the poor results to the occurrence of pseudo-arthrosis.

Summary

(1) The end-results of operation for spinal fusion in forty-four cases are reported.

(2) These cases were treated in a Veterans Administration Hospital under ideal conditions for selection of patients and pre- and post-operative care, and with no restrictions on length of hospital stay, type of treatment, etc.

(3) The good results obtained are usually directly related to the occurrence of firm bony fusion of the operative area and the poor results are almost always directly related to the occurrence of pseudo-arthrosis.

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401 Medical Arts Building.

TV May Revolutionize Medical Education.

The growing use of television in the nation's medical schools is prophetic of a virtual revolution in medical teaching methods which may take place during the next ten years.

Dr. David S. Ruhe, director of the Medical Audio-Visual Institute, writing in the January issue of *The Journal of Medical Education,* looks ahead to a time when medical schools will be linked in a TV network and when all medical students may have visual contact with the greatest medical minds of our time.

Most medical schools questioned in a recent survey by the Medical Audio-Visual Institute indicated that they were making experimental use of television and that facilities for expansion of the program are being included in new building plans. Many schools sponsor health education programs to the public over regular TV channels.

THE TREATMENT OF CORONARY ARTERY DISEASE*

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All phases of coronary artery disease are based on sclerotic narrowing of the coronary arteries. The symptoms caused by a lack of blood supply to the heart itself, depend on the degree of coronary insufficiency. In fact, angina pectoris is considered a symptom complex rather than a definite pathologic entity. Occasionally post-mortem investigation has not demonstrated any involvement of the coronary vessels and yet the patient has succumbed from an attack of angina pectoris.

The individual reaction to impaired coronary circulation depends a great deal upon the sensitivity of the patient and the amount of coronary artery disease. All of us have seen individuals with very severe coronary disease who have been able to lead useful lives without any cardiac symptoms, mainly because of their adequate cardiac reserve. Under the circumstances, treatment must be selective and possibly different for each individual case.

We have stated that angina pectoris is a symptom complex. The patient may complain of a sense of fatigue, suffocation, or oppression in the chest, without having severe pain, but the classical type of discomfort is a constricting, substernal pain, lasting for several moments, usually occurring on exertion and radiating to the arms, neck, teeth, and even the back. Discomfort may occur on the least exertion, such as dressing, after awakening, or even shaving. Occasionally the patient has to exert himself to an extreme to cause any chest discomfort. The diagnosis at times may be very difficult, as certain conditions such as hypertrophic arthritis of the spine, gallbladder disease, dissecting aneurysm, and hiatal hernia, may simulate angina pectoris. Electrocardiograms and examination may not be very helpful, but given an individual in the older age group who develops chest discomfort on exertion, relieved by rest, one may assume that the patient has coronary artery disease.

The treatment of angina pectoris is based on simple broad principles.

1. Physical Activity. The patient with established angina of effort does not require rest in bed. In fact, moderate exercise, such as leisurely walking on a level footing, may be beneficial, because it may promote the development of a collateral circulation. The patient usually knows how far he can walk before angina occurs. He should be instructed to rest for a few moments before he proceeds farther. He should never continue activity while having an anginal attack. If a prolonged attack occurs, lasting as much as a half hour, it might be necessary for the patient to be placed at bed rest for several days, in order to rule out the possibility of acute coronary insufficiency or even a coronary thrombosis. These same principles apply to a patient when angina of effort becomes so severe that he starts having angina at rest (angina decubitus), but he should even restrict his activities more, to the point of being a complete bed patient, until he shows improvement. It may be necessary, if the patient is of a highly nervous temperament or in a strenuous occupation, that retirement from business or a change of occupation be advisable.

2. Psychotherapy and Living Routine. Everyone becomes emotionally upset when told he has a heart condition. This is even more true of physicians than of laymen, so it is most important that the problem be approached in a calm manner. The patient should understand that he will be allowed certain activities and that most of the time he will be able to lead a fairly normal existence if he follows the proper instructions. Certainly, necessary adjustments in his home life will be required. We are inclined to limit smoking or even restrict it completely, but do allow an occasional alcoholic drink. Temperance in eating is important and relaxation in a chair after meals is advised. Sometimes a day or two in bed each month may be helpful. Sexual intercourse is allowed but any excesses are condemned. The physician must understand the patient's routine and mode of living, as at times his advice cannot be followed. For example, telling a laborer that he should discontinue working may be the final insult and produce a myocardial infarction.

3. Nitroglycerin. In 1867, Dr. I. L. Brunton[1]

*Presented at the twenty-second St. Philip Hospital Seminar, July 18, 1952.

described the effect of amyl nitrite on a patient with anginal attacks. Later, in 1872, Dr. W. H. Madden[2] gave a report of his personal experience with amyl nitrite. He stated, and I quote, "the presence of intense pain is not conducive to the exercise of calm, philosophic analyses and I can only tell you what I felt, that the effect was truly wonderful." Sir Thomas Lewis, in 1933, observed that the relief of pain by the use of nitrites was due to increased blood flow. Since that time there have been innumerable nitrite preparations used for the treatment of angina pectoris. None are better than nitroglycerin. Unfortunately, most physicians use nitroglycerin as a treatment for an attack. We suggest that the drug should be used to prevent an attack. In addition, the average physician uses either 1/100 or 1/150 grain. This dosage frequently causes excruciating headache and the patient is so unhappy with the headache that he would rather suffer the anginal pain. In the past two years we have suggested that our patients take 1/400 gr. under the tongue, three times a day regularly, and if they have a severe attack they take an additional dose. Usually this method prevents many attacks, but of course occasionally the patient continues to have pain, requiring larger dosages. In the past three years we have become very interested in an Egyptian drug which is obtained from the seeds of Ammi visnaga. This product is officially named visammin and the trade name is Khellin. Khellin has been used as a potent vasodilator for at least twenty years. When we started using this drug the original investigators, led by Anrep, Kenawy, and Barsoum,[3] suggested a dosage of 100 to 200 mgm. a day. We found that the patient could hardly stand 40 mgm. a day and since then Conn *et al.*[4] have suggested that the patient start on 20 mgm. twice a day, and finally reach a level which the patient can tolerate without the disastrous gastro-intestinal effect from overdosage. We have been extremely interested in the parenteral administration of Khellin and have found that 50 mgm. intramuscularly every day may relieve many patients with severe angina who have not been helped by nitroglycerin. Later the drug may be given once a week by injection. This treatment has been recommended by Kleiber.[5] We have also been stimulated by the observations of Gilbert and Nalefski[6] on the effect of anticoagulants in increasing the coronary blood flow. These investigators, using dogs, have suggested that anticoagulants benefit coronary thrombosis and angina pectoris because they increase the coronary blood flow rather than their anticoagulant action. We recently treated two cases of severe status anginosis by giving Heparin, 100 mgm. intravenously every other day. Both of these cases responded beautifully and prior to the injections were using 10 to 15 nitroglycerin tablets a day. During the period of taking the injections and afterwards they were able to discontinue nitroglycerine. These two cases do not prove that Heparin has any real value in the treatment of angina pectoris but certainly have stimulated us to continue looking for other methods of therapy in handling severe cases. Russek,[7] in his studies on 13 cases, has not been able to substantiate our findings.

Xanthines. In 1895, Askanazy,[8] reported improvement in cardiac asthma and angina pectoris with administration of theobromine sodio-salicylate. This work was confirmed by Brewer,[9] in 1902, it being considered that the xanthines had a direct vasodilator effect on the coronary arteries, probably directly on the walls of the blood vessels. Since then, many investigators have studied the xanthines and there has been a great deal of discussion as to their merits. Gilbert[10] has been very much impressed with their usefulness, while Gold[11] feels that they have no value except when used intravenously for bronchial asthma. We believe that in severe angina pectoris or coronary insufficiency it might be wise to use aminophyllin, 4 grs. intravenously or intramuscularly, every four hours for several doses, later placing the patient on Theocalcin orally, 7.5 grs. three times a day.

Coronary thrombosis with myocardial infarction presents an entirely different problem than angina pectoris, although it is not unusual for both to be present in the same case. It is interesting to note that if a patient who has been suffering with angina pectoris develops a coronary thrombosis, very often the angina pectoris disappears. After an acute coronary thrombosis the treatment for the acute attack is of an emergency nature. In the uncomplicated case that has not developed acute heart failure, the patient is placed at *bed rest* for several days. In recent years we have become much more lenient as far as allowing the patient to get out of bed. This has been brought about by the efforts of Dr. Sam Levine,[12] who recently discussed the arm-chair treatment of coronary thrombosis. He has suggested

that the patient be allowed to sit on the side of the bed in a chair as early as twenty-four hours following an attack. This seems a little fast to us, but we do let the patient use a bedside commode and sit in a chair after several days, preferably a week. The patient is not allowed to walk or go to the bathroom and this chair existence is continued for practically the same period of time, usually four to six weeks, as in the older method of treatment. This bedside treatment is not advocated for an individual who starts his attack by going into shock and may be unsatisfactory if one requires oxygen.

Oxygen is usually started on all acute coronary thrombosis cases. We prefer the oxygen tent and regulate the flow of oxygen at the rate of twelve to fifteen liters per minute. If a tent is not available, we use nasal oxygen at six to eight liters per minute. Some clinicians prefer the hood or the oxygen mask on account of the higher concentration of oxygen but the patient is usually much more uncomfortable in the hood or mask rather than in the tent or using the nasal tube.

At the onset of an acute coronary episode one must attempt to eliminate pain and at times it is necessary to use large doses of morphine or Demerol. We suggest 1/4 gr. morphine or 100 mgm. Demerol, and if necessary this may be repeated within fifteen to thirty minutes. The Demerol is given intramuscularly but the Morphine may be given in the vein. At times these strong narcotics must be continued for several days. Very often they cause much nausea and vomiting. This is unavoidable. Later, when the patient has improved, we find that relaxation may be obtained by the use of moderate doses of barbiturates. It is important that the patient sleep and for several weeks we may give 1.5 gr. Seconal or Nembutal at bedtime. Occasionally barbiturates excite the patient; then we try bromides or chloral hydrate, which may be very effective in 20 gr. doses given in fruit juice.

The xanthines may be very helpful at the onset of an acute coronary thrombosis. They are then given as in acute coronary insufficiency. We prefer Aminophyllin, 4 grs., intravenously or intramuscularly but the morphine may be given in the vein. At tinue with one of the oral preparations, such as Theocalcin.

It has been known for many years that there is marked reflex vasoconstriction in other coronary vessels at the time of an acute coronary thrombosis. Manning, McEachern and Hall[13] have shown that these vasoconstrictor reactions may be prevented by vagal section or the use of atropine in the experimental animal. The increase in coronary blood flow after the administration of atropine reduced the mortality in dogs 34%, so most observers following these experimental studies suggest the use of atropine after an acute coronary thrombosis; thus, it is probably a good idea to give the patient 1/150 gr. of atropine every four hours for several doses.

Frequently the patient is in severe shock after the onset of coronary thrombosis. This may result in temporary renal shut-down. Although some investigators feel that the patient's life may be jeopardized by parenteral fluids, we have seen several remarkable recoveries by judicious use of small infusions, 250 to 500 cc. of 10% glucose, but prefer 250 cc. of plasma or whole blood if they are available. It may be necessary to repeat the infusions during the critical period of shock. We know of one instance in which a very prominent physician was saved by giving him several transfusions up to 1000 cc. of whole blood during the shock period. We are positive that he would have succumbed if this had not been done. It is not considered wise to use parenteral fluids on the milder cases of coronary thrombosis or those that are not in shock, but a patient in shock is in very critical condition and one must use every device in his power to prevent the patient's death.

It is no longer considered good practice to give digitalis in the treatment of coronary thrombosis with myocardial infarction unless there is definite evidence of congestive heart failure; then it should be given and the patient fully digitalized. We do not believe in rapid digitalization unless the patient is critically ill with pulmonary edema and uncontrolled auricular fibrillation. Gradual digitalization over a period of several days would be the accepted procedure. Quinidine has many advocates as a routine drug in acute coronary thrombosis. We have never been impressed with the arguments in its favor suggesting that it might prevent ventricular tachycardia. If the patient is having frequent extrasystoles, then Quinidine should be used in a dosage of 3 grs. every four hours. If ventricular tachycardia occurs then Quinidine must be used in much larger amounts,

otherwise the patient may succumb. We have given as much as 0.6 gram every two hours for twenty-four or forty-eight hours, but have never given as much as 1 gram at a dose, which has been suggested by some observers. Pronestyl (procaine amide) may be very efficacious in the abolition of ventricular tachycardia. It should be given intravenously, starting with 0.5 gram slowly; later this dose may be repeated. At times one must give up to 2 grams over a period of twenty-four hours to terminate an attack of ventricular tachycardia. This drug may also be used by mouth but is not as effective by this route.

The use of anticoagulants in the treatment of acute coronary thrombosis is now firmly established. Unfortunately there is no simple laboratory technique to enable us to use these drugs with ease. When Heparin is given, clotting time must be frequently performed, and if one uses Dicumarol or Tromexan, daily prothrombin times must be obtained. If adequate laboratory facilities are not available, we advise that you do not use the anticoagulants as they may be quite dangerous without proper control. In acute coronary thrombosis the proper method is to give Heparin, 50 mgm. intravenously, and repeat it after four hours. In the meanwhile, a prothrombin time has been obtained and Dicumarol in dosages ranging from 100 to 300 mgm. is given according to the prothrombin time. We like to keep our patients at a level of 20% to 30% concentration. At times, at the onset of the acute attack, the prothrombin time may be prolonged and the concentration be down even before the first dose of anticoagulant; therefore, it would be dangerous to give the larger dose unless the exact concentration has been determined; 300 mgm. Dicumarol is given if there is 100% concentration, 100 to 200 mgm. with concentrations above 30%, and 25 to 50 mgm. with concentrations between 20% and 30%; under 20% no anticoagulant should be given. This schedule also is advised if Tromexan is given. This is another cumarin derivative and is supposed to be safer than Dicumarol, because it is absorbed more rapidly and the maximum effect takes place thirty hours after a single oral dose. The duration of effect disappears in forty-eight to sixty hours, while Dicumarol remains in the system much longer. It must be given in larger doses and usually one starts with 1200 to 1500 mgm. the first day, 900 mgm. the second day, and from 450 to 750 mgm. daily thereafter. A daily prothrombin time must be performed while on Tromexan. One attempts to maintain a level of two to two and one-half times the control reading of sixteen to eighteen seconds or a percentage concentration of 20% to 30%.

The danger of hemorrhage is always a factor when using anticoagulants, so a constant check of any bleeding tendency or hematuria is necessary. Anticoagulants are contraindicated in blood dyscrasias, severe liver damage, or ulcerative visceral lesions. If hemorrhage does occur, the drugs are immediately stopped, intravenous injections of 72 mgm. of vitamin K are given, which may be repeated in four hours; whole blood transfusions may be required. In spite of the best laboratory technique there may be wide fluctuations in prothrombin determination, requiring constant vigilance by the attending physician in order to keep the prothrombin time at its proper level. There are some investigators who condemn anticoagulants because of the difficulty in their administration, but in the modern treatment of acute coronary thrombosis with proper laboratory facilities the drugs should be given.

In the past few years most of the research in coronary disease has been in the field of cholesterol metabolism. There are many conflicting opinions concerning the position of cholesterol as regards the pathogenesis of coronary arteriosclerosis. The work of Gofman[14] and his associates on separating the cholesterol molecule has stimulated many investigations of this particular problem. He is convinced that the Sf 10-20 molecule is the important cholesterol factor causing coronary arteriosclerosis. Keys[15] does not agree completely with these ideas and believes the entire cholesterol molecule is responsible for coronary artery disease, rather than any particular size molecule. But, in attempting to take a conservative attitude to the entire problem, we have become convinced that excessive cholesterol ingestion is not good for our coronary patients. Certainly a low-fat diet should be advocated. A low-cholesterol diet is not very palatable, but if the patient is cooperative it can be followed without too much trouble. There is some question as to the value of lipotropic substances preventing and absorbing atherosclerosis in the experimental animal, so Morrison[16] and his associates have suggested the combination of a low-

cholesterol diet and lipotropic drugs, such as choline, inositol or methionine as a long range treatment of coronary artery disease. We have followed these ideas but it is most difficult to evaluate a dietary regimen on coronary arteriosclerosis. Possibly this entire problem will be clarified in the next few years.

In summary, it is impossible to cover the entire field of treatment in this short period. The broad principles of treatment have been indicated with some of the more modern therapeutic ideas. We hope that eventually there will be some method of preventing coronary atherosclerosis, or at least retard its development; then less treatment will be required.

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Describe Three New Insulin Preparations.

Three new long-acting insulin preparations, which offer promise in reducing the complexities of insulin administration to diabetics, were described in the December 27 J.A.M.A. The new preparations, consisting of insulin mixed with small amounts of zinc, have activity ranges from about 18 to more than 30 hours, according to K. Hallas-Moller, Ph.D.; M. Jersild, M.D.; K. Peterson, M.Sc., and J. Schlichtkrull, M.Sc., of Copenhagen, Denmark.

According to the authors, preliminary studies of 65 patients with severe cases of diabetes have shown "that satisfactory blood sugar control can be obtained in such patients with a single injection of the appropriate one of the three types of zinc insulin."

They reported that the currently available insulin preparations with protracted action, if given in one daily injection, are incapable of providing satisfactory regulation of the blood sugar level in a considerable number of patients with difficult cases of diabetes.

"The results we have attained indicate that these zinc insulin preparations may offer a solution to the problem of providing a single daily injection for such patients."

Zinc insulin was given to the patients daily at 8 a.m. The amounts of insulin varied according to individual reactions to the drug.

A SEROLOGIC STUDY OF SERUM FROM SUSPECTED CASES OF INFECTIOUS MONONUCLEOSIS

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Infectious mononucleosis is a disease of unknown etiology, characterized by fever, chills, sore throat with or without membrane, enlarged lymph nodes and spleen. Due to its protean manifestations and similar hematologic changes the syndrome has been mistaken for diphtheria, meningitis, typhoid, whooping cough, appendicitis, leukemia and several rash producing diseases, such as typhus, scarlet fever, measles and secondary syphilis. Several bacteria have been suggested as causing the disease, but experiments have failed to produce acceptable proof. A filterable virus is now considered to be the possible etiologic agent since monkeys inoculated with blood from patients with infectious mononucleosis developed similar blood pictures. Davidsohn states that "successful transmissions of the disease from monkey to man, from man to monkey, and from man to man have been reported but require confirmation."

The advent of the Paul-Bunnell agglutination test in 1932 and Davidsohn's[1] differential test reported in 1935 has enabled the laboratory to render more effectual assistance to doctors in diagnosing infectious mononucleosis. Paul and Bunnell observed that the blood serum of patients with infectious mononucleosis would agglutinate sheep erythrocytes. Davidsohn found that a suspension of guinea pig kidney would remove both normal agglutinins for sheep cells and antisheep agglutinins in the serum of patients with serum disease but would not remove sheep cell agglutinins found in the serum of patients with infectious mononucleosis.

Blood examinations for heterophile antibodies has been made a general procedure in the laboratory of the Virginia Health Department since January, 1951. Previously the test was only conducted when requested by a physician submitting the specimen. All blood specimens received in the laboratory for agglutination tests for febrile diseases are also tested for heterophile agglutinins. The procedure employed is a presumptive slide agglutination test, a rapid method developed by F. Rappaport and M. Skariton[2]. The technic employs one drop or 0.05 cc. of clear serum (fresh or inactivated) to which is added one loopful (5 mm. in diameter) of washed packed sheep red blood cells. The two components are mixed thoroughly and read at once. Failure of the patient's serum to agglutinate the sheep cells is considered a negative test. Immediate clumping of the cells constitutes a positive reaction. Specimens that are negative by this method are reported without further delay. Specimens that give positive reactions are subsequently tested by a macroscopic tube test. Adsorption tests are conducted on serum with guinea pig kidney and boiled beef erythrocytes to differentiate between heterophile antibodies of infectious mononucleosis, antibodies formed by a previous therapeutic injection of horse serum and normal agglutinins. After the serum has been adsorbed, centrifuged and decanted, serial dilutions in 0.9% saline are prepared and a tube agglutination test performed. Washed sheep red blood cells in a one per cent suspension is added to each tube. The tubes are shaken and incubated in a 37° C. waterbath for two hours. Immediately after the incubation period the rack is shaken vigorously and the titre observed without removing tubes from rack. Agglutinins for sheep erythrocytes in normal serum are adsorbed with guinea pig kidney antigen but not with boiled beef erythrocytes. No agglutination is obtained with serum from a patient with serum sickness caused by previous injections of horse serum because the agglutinins for sheep erythrocytes are adsorbed by both guinea pig kidney and boiled beef erythrocytes. Agglutination resulting from serum adsorbed with guinea pig kidney antigen and the absence of agglutination with the same serum adsorbed with boiled beef erythrocytes is indicative of infectious mononucleosis. Tests conducted with adsorbed serum are considered highly specific; therefore, the titre is not significant so far as the disease is concerned, but may serve as an index to the patient's antibody response.

Literature on infectious mononucleosis records that serum containing heterophile antibodies will

elicit false positive reactions in syphilis serology. Davidsohn[1] states that "occasional positive results have been observed usually only transient and disappearing after a few weeks." Kolmer[3] thinks about 20% of the cases of infectious mononucleosis will produce transitory positive reactions in syphilis serology.

with adsorbed serum of patient "A" yielded a 4+ Kolmer reaction. The V.D.R.L. slide test was positive in a dilution of 1:10. In this instance the sheep cells were partially agglutinated in the Kolmer test. A portion of the serum was then adsorbed to remove the sheep cell agglutinins and another Kolmer test performed. A 4+ reaction was ob-

AGGLUTININS

FOR SHEEP ERYTHROCYTES IN HUMAN SERUM

AGGLUTININS ADSORBED BY	TYPE OF SERUM		
	INFECTIOUS MONONUCLEOSIS	SERUM SICKNESS	NORMAL SERUM
GUINEA PIG KIDNEY ANTIGEN	NOT ADSORBED (Agglutination of sheep cells)	ADSORBED (No agglutination of sheep cells)	ADSORBED (No agglutination of sheep cells)
BOILED BEEF CELL ANTIGEN	ADSORBED (No agglutination of sheep cells)	ADSORBED (No agglutination of sheep cells)	NOT ADSORBED (Agglutination of sheep cells)

The laboratory of the Virginia Health Department conducts serologic tests for evidence of syphilis on all specimens showing heterophile agglutinins. We have observed that approximately 12% of the sera react to the Kolmer complement fixation test and 6% to the V.D.R.L. slide test. These figures represent a little more than half the number conceded by other workers to yield positive syphilis serology. Histories received in a public health laboratory concerning patients are rather meager and we have no way of knowing whether a patient eliciting positive syphilis serology is a syphilitic or not. Occasionally we are fortunate enough to receive a second specimen of blood from a patient from whom a positive heterophile and positive syphilis serology tests were obtained. Repeat tests on this type of specimens usually have yielded negative results in syphilis serology, although the heterophile titre has remained the same or was elevated.

Results of blood tests from four cases of particular interest are as follows: A heterophile titre of 1:40 served and there was no clumping of sheep cells. Five days later a second specimen from patient "A" elicited a heterophile titre of 1:160 and the syphilis serology was negative.

A titre of 1:640 for heterophile antibodies was observed with the serum from patient "B". The Kolmer complement fixation and V.D.R.L. slide tests were both positive. Four days later a second specimen from patient "B" was still positive for heterophile agglutinins in a dilution of 1:640 with negative syphilis serology.

A blood specimen from a young college student, patient "C", was positive for heterophile antibodies in a titre of 1:160. Two flocculation tests were negative but the Kolmer complement fixation was strongly positive. Nine days later the heterophile titre had risen to 1:320 while all three tests for syphilis were negative.

Patient "D" was admitted to a hospital in a state of convulsions with high temperature and sore throat. Agglutination tests for heterophile antibodies were

positive in a dilution of 1:640. Two flocculation tests for syphilis and the Kolmer complement fixation test were positive. Three days later the heterophile titre for infectious mononucleosis was still 1:640. The flocculation tests were weakly positive but the Kolmer was negative.

The above cases, although few in number, are an index of the transitory or temporarily false positive reactions observed in syphilis serology.

Blood specimens received in the State Laboratory containing heterophile antibodies for infectious mononucleosis have not elicited as many positive reactions in syphilis serology as literature on the subject has led one to believe might be observed. The use of cardiolipin-lecithin antigen for serum tests for syphilis might be the answer. This antigen is a highly purified product and is used exclusively in the State Laboratory in syphilis serology with one exception, the Kahn test. The subject is a moot point and it is hoped that more investigative work will be done in the future.

Conclusion:

A presumptive and differential agglutination test for infectious mononucleosis has been included in the general procedure of blood examinations for febrile diseases in the Virginia Health Department.

Specimens positive by the presumptive test are further tested by Davidsohn's differential macroscopic tube test.

Adsorption of serum with guinea pig kidney antigen and boiled beef erythrocytes will differentiate between heterophile antibodies of infectious mononucleosis, normal antibodies and agglutinins formed by recent injections of horse serum.

Blood specimens from cases of infectious mononucleosis are conceded to elicit false positive reactions in syphilis serology. The percentage of nonspecific reactions observed in the State Laboratory has been about half the number reported by other workers.

Cardiolipin-lecithin antigens used in the two general serologic test procedures may be the cause of the smaller number of false positive reactions.

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1. Davidsohn, I.: Serologic Diagnosis of Infectious Mononucleosis. Journal A.M.A., **108**: 289-294, 1937.
2. Rappaport, F., and Skariton, M.: Rapid Macroscopic Test for Infectious Mononucleosis. American Journal Clinical Pathology, **19**: 665-666, 1949.
3. Kolmer, J. A.: Infectious Mononucleosis—Clinical Diagnosis by Laboratory Examinations, 691-692, 1944.

New Books

The following are some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond 19, which may be borrowed by our readers under usual library rules:

AAAS—Soviet science. 1952.

Bierman & Licht—Physical medicine in general practice, 3rd ed. 1952.

Bowlby—Maternal care and mental health, 1951.

Craiz & Faust—Clinical parasitology, 5th ed., 1951.

Davidson—Forensic psychiatry. 1952.

Duncan—Diseases of metabolism, 3rd ed. 1952.

Freud—Dictionary of psychoanalysis, 1950.

Friedenwald et al—Ophthalmic pathology, 1952.

Joslin—Treatment of diabetes mellitus, 9th ed. 1952.

McDonald & Chusid—Correlative neuroanatomy & functional neurology, 6th ed. 1952.

Moore & Ball—The metabolic response to surgery. 1952.

Rifkin, Leiter, & Berkman—Diabetic glomerulos cherosis. 1952.

Rundle—Joll's diseases of the thyroid gland, 1951. 2nd ed.

Segal—The management of the patient with severe bronchial asthma. 1950.

Willis & Cummings—Diagnostic & experimental methods in tuberculosis. 2nd ed. 1952.

A STUDY OF INTESTINAL PARASITES AT WESTERN STATE HOSPITAL

JOHN H. FURR,*
WALTER R. WHITEHURST,*
and
HOBART G. HANSEN,†
Staunton, Virginia

It was noted on differential blood counts of patients within the institution, and newly admitted patients as well, that a relatively large group had eosinophil counts of five per cent or more. It was assumed this increase was due mainly to intestinal parasites. We proceeded to test this assumption in the study which follows.

A patient sample (253 or 10% of the hospital population) was organized into three groups. Group A was composed of 72 newly admitted alcoholic and mentally ill patients without reference to sex, age, or community from which they came. Group B was composed of 27 patients who had resided in the hospital for many years, and who where able to carry out the ordinary provisions of hygienic living. Group C was composed of 154 male and female patients. They, too, had been in the hospital for many years but had been untidy and unable to observe hygienic measures. A fourth group, Group D, composed of 12 members of the hospital personnel, were also examined, thus increasing the total to 265. All persons with known or suspected allergic conditions were omitted from these groups.

Method: Red and white blood cells were counted in the usual way in a Neubauer hemocytometer. Differentials were made on thin smears, using Wright's stain. A Hellige-Diller photoelectric colorimeter was used to determine the amount of hemoglobin. With this method, the 100% standard for males is 15.5 grams and 14.2 grams for females. Stools were examined by concentrating the ova, using the Zinc Flotation Method.[1] One or as many as three stools from each individual were examined. This was the only method used to detect the ova. With Ancylostoma duodenale and Enterobius vermicularis, more complete results may have been obtained with more accurate methods.

*Fourth year students from the University of Virginia Medical School who worked during the summer of 1951 under the direction of Western State Hospital Staff.

†Chief Psychologist, Western State Hospital.

Results of the stool examinations: The overall results of the stool examinations showed that 170 of the 265 individuals (64.1%) in the study were infested. Single infestations occurred 107 times, double 50, and triple infestations 13 (Table I). Ascaris lumbricoides was the most frequent infestation. It was followed, in descending order of frequency, by Trichuris trichiura, Enterbius vermicularis, and Necator americanus (Table II).

Group A (newly admitted), Group B (tidy, chronically ill), and Group D (hospital personnel) were infested at similar percentage rates, and species of worms. (Group A 38.8%, Group B 40.7%, and Group D 41.7%. See Tables I and II). Group B had a higher rate of double infestations, which may be accounted for by the natural history of certain psychotic states. Some patients regress to such an untidy state they become coprophagic and must, of necessity, be placed with similarly regressed patients. In this environment, as will be seen below, double infestations were common. After a period of time in this environment, partial remission of the illness permits a change to more hygienic living conditions.

Group C (untidy) had the highest incidence of infestation. Among 154 patients, 100 were infested with Ascaris lumbricoides, 65 with Trichuris trichiura, 25 with Enterobius vermicularis, and 4 with Necator americanus. Only 18.2% (or 28 patients) showed no infestation and multiple infestations, evident from the above figures, were frequent. (See Tables I and II). This unusual increase in rate of infestation is believed to be directly related to the regressed condition of these patients.

Correlations between infestation and eosinophil counts: Ninety-five individuals without ova in their stools had a mean eosinophil count of 1.87%. This is well below the usually accepted maximum normal count of 4%. One hundred and seven individuals with single infestations had a mean eosinophil count of 4.09%. Fifty individuals with double infestations had a mean eosinophil count of 7.47%, while

thirteen individuals with triple infestations had a mean count of 10.09%.

These findings were compared percentage-wise against the usually accepted maximum normal eosinophilia of 4%. It was found, as the number of species of infestations increase, there was a parallel increase in the number of cases showing an eosinophilia above 4%. This parallel was indicated in the following way: With no ova in the stool, only 15% had an increase in eosinophils. It is possible this 15% might have been reduced by uncovering the presence of ova in the stools or duodenum of some of these individuals. With one species of ova, the percentage increased to 30%, with double infestation to 55%, and with triple infestations to 85%. The species of infestations were considered in this same frame of reference, and we found with Ascaris lumbricoides alone in the stool, 30% showed an increase above 4%, with Trichuris trichiura alone 40%, with Trichuris trichiura and Enterobius vermicularis 32%, with Ascaris lumbricoides and Trichuris trichiura 68%, and with Ascaris lumbricoides, Trichuris trichiura and Enterobius vermicularis 90% of the differential smears had an eosino-

Table I

	Group A Newly Admitted	*Group B* Chronically Ill but Tidy	*Group C* Chronically Ill (Untidy)	*Group D* Employees	*Totals*
Number in Sample	72 (100%)	27 (100%)	154 (100%)	12 (100%)	265
No infestation	44 (61.1%)	16 (59.3%)	28 (18.2%)	7 (58.3%)	95
Single	23 (31.9%)	8 (29.6%)	71 (46.2%)	5 (41.7%)	107
Double	5 (6.9%)	3 (11.1%)	42 (27.4%)	0 (0.0%)	50
Triple	0 (0.0%)	0 (0.0%)	13 (8.2%)	0 (0.0%)	13

Table II

Species of Infestation					
Ascaris lumbricoides	27	10	100	5	142
Trichuris trichiura	0	1	65	0	66
Enterobius vermicularis	2	3	25	0	30
Necator americanus	4	0	4	0	8
Totals	33	14	194	5	246

philia above 4%. These data indicated a high positive correlation between the incidence of infestation and the eosinophil percentages.

Statistical significance of eosinophil and white blood cell counts: It has been reported that an increase in eosinophils in the blood stream is at the expense of the neutrophil group. Our raw data suggested this finding was true, but an increase in mean WBC counts was an accompaniment of increased eosinophil counts. It was decided to apply a statistical analysis to our data.

For this purpose, two groups (I and II) were set up. Group I was based on 104 eosinophil counts of 0 to 4% with the accompanying lymphocyte, neutrophil and total white cell counts. Group II was based on 29 eosinophil counts of 9 to 24%. From this phase of the statistical procedure, it became obvious that the increased eosinophil percentage in Group II resulted in a decrease in both lymphocytes and neutrophil percentages and also that the white blood cell count of Group II was high. Through the further use of "T" scores, it was found that the increase in eosinophil percentage was mainly at the expense of neutrophils, and to a lesser degree, at the expense of the lymphocyte percentage. The increase in WBC is extremely significant, even though the mean value does not rise above a value usually considered "within normal limits". (See Tables III and IV).

Hemoglobin and Red Blood Cell Counts: The hemoglobin and red blood cell counts were dichotomized—those infested with parasites and those who were not infested. Differences in sex were not taken into account. The results showed there were no significant differences between mean grams of hemoglobin or between mean RBC count for the two groups. The infested group had a mean hemoglobin of 13.14 grams per 100 c.c. of blood and a mean red cell count of 4.36 million per cubic millimeter. For the non-infested group, the means were 13.87 grams hemoglobin per 100 c.c. and 4.39 million red cells per cubic millimeter.

DISCUSSION

Reports of infestations in Virginia in the recent literature are not frequent. The report of Garst and Bengtson (1948),[2] covering a 13 year period at Catawba Sanatorium, showed that 10 to 20 per cent of the incoming patients were infested. The four most common species, in order of frequency, were Ascaris lumbricoides, Trichuris trichiura, Necator americanus and Enterobius vermicularis. These species of infestation are quite similar to the species found in the present study. However, the percentage of patients infested, when compared with the newly admitted group (Group A), at Western State Hospital, is 2 to 4 times smaller. An earlier work by Habeeb (1944)[3] in a West Virginia tubercular sana-

TABLE III

The mean per cent and standard deviation of Eosinophils, Lymphocytes, Neutrophils and WBC for Groups I, II and combined Group I and II.

		Eosinophils		Lymphocytes		Neutrophils		White Blood Count	
GROUP	No.	Mean	Sigma	Mean	Sigma	Mean	Sigma	Mean	Sigma
I	104	1.71	1.45	35.05	8.46	63.14	9.12	7980	2230
II	29	14.51	4.34	30.26	12.48	54.94	12.08	9810	2290
I & II	133	4.51	2.40	34.01	9.48	61.35	9.69	8379	2243

TABLE IV

Difference between means for Groups I and II, Groups I and Combined I and II, and Groups II and Combined I and II.

GROUPS	Eosinophils	Lymphocytes	Neutrophils	White Blood Count
I and II	12.80***	4.79*	8.20***	1830***
I plus I and II	2.80***	1.04	1.79	399
II plus I and II	10.00***	3.75	6.41**	1431***

* Significant at the 5% level of confidence. (Significant)
** Significant at the 1% level of confidence. (Very significant)
***Significant at the .5% level of confidence. (Extremely significant)

torium indicated that only 4.4% of the newly admitted patients were infested. The frequency of types of infestation were quite different from the present study. In descending order of frequency, they were: Strongyloides sterocoralis, Necator americanus, Endamoeba coli, Ascaris lumbricoides, Trichuris trichiura and Hymenolepis nana.

In view of the high rate of infestation at Catawba and Western State Hospital, and the few studies made on intestinal parasites in Virginia within the recent past, it would be of interest if similar studies were made at other Virginia institutions.

Conclusions

It is felt the hypothesis on which this work was begun has been well substantiated by the data presented, to wit, parasitic infestations were the major reason for increased eosinophil counts found on routine blood examinations at Western State Hospital.

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2. Garst, L. W., and Bengston, A. W.: Report on the Infestation of Intestinal Parasites Throughout Virginia. Virginia M. Month., **75**: 231-283, 1948.
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Hormone Drugs Aid in Treating Type of Anemia.

Use of corticotropin (ACTH) and cortisone in combination with other forms of therapy has greatly improved the outlook of patients with acquired hemolytic anemia, it was reported in the December 20 J.A.M.A.

This disease, an anemia due to rapid destruction of red corpuscles, is sometimes fatal. The basic cause of the disorder is obscure; it has no particular age predilection, but seems to afflict more females than males.

"During the past two years, the treatment of acquired hemolytic anemia has been advanced considerably, owing to the introduction of corticotropin and cortisone," it was stated by Dr. Milton S. Sacks, Dr. Joseph B. Workman and Elsa F. Jahn, B.S., Baltimore. All are associated with the department of medicine, University of Maryland School of Medicine and the Baltimore Rh Laboratory.

They reported on a study of 19 persons afflicted with the disease who received the drugs in addition to other forms of treatment. Several of the patients had remissions following treatment with blood transfusions and the hormones, and no relapses occurred. Significant improvement was noted in many other cases, according to the authors, although removal of the spleen was required in some instances.

They stated "There is no doubt in our minds that, but for the availability of this form of treatment, some of these patients would be dead."

MENTAL HEALTH

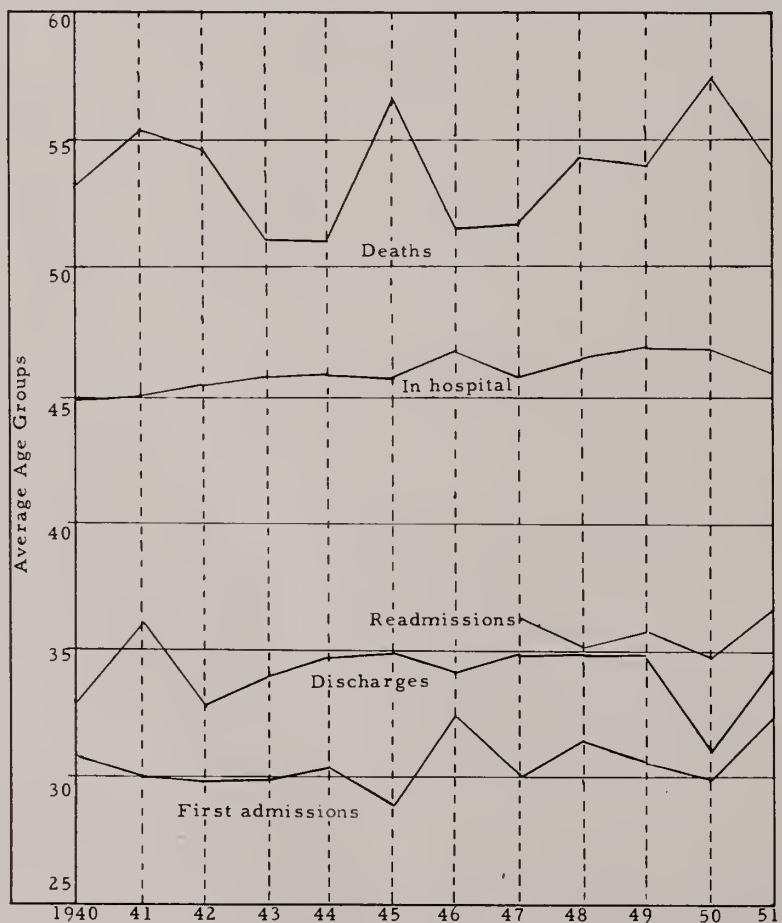
JOSEPH E. BARRETT, M.D.
Commissioner, Department of Mental Hygiene and Hospitals

Schizophrenia As It Has Affected State Hospitals for the Past Twelve Years*

There are several diagnostic classifications of mental diseases, among which is schizophrenia (dementia praecox). It is one of the diseases with the larger frequency of occurrence. For a period of the last 40 years the rate of first admissions to the general population has remained approximately the same, about 9 to every 100,000 of general population. On the basis of the present population in Virginia, this means about 300 per year. According to past records, as the population increases this may be expected to increase. It will especially be affected by the age groups of 25 to 35 years of age.

Schizophrenia comprises about 13% of the total first admissions. The readmission rate is higher, being about 22% of the total readmissions.

A third, or 33%, of those resident in hospital have a diagnosis of schizophrenia. This means that many of these are long time patients and find their way to the back wards. For every 110 admissions of schizophrenia each year for the past 12 years, there have been 100 separations (discharges and deaths), which has built up an increase of 14.4% in hospital from 1940 through 1951.



Average age of patients with a diagnosis of Schizophrenia of first admissions, discharges, deaths and in hospital for years 1940 through 1951 and readmissions 1947 through 1951, for the four Virginia State Hospitals.

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

The average age of patients diagnosed as being schizophrenic shows, by their various statuses, the gradual build-up of this type of patient. The accompanying graph gives a picture of the average age groups with schizophrenia for a 12 year period (1940-1951) for first admissions, readmissions (only tabulated for 1947-1951), discharges, deaths and those remaining in hospital.

First admission ages averaged about 30 years of age, readmissions about 35 years of age. The discharge average age is less than that of readmissions, or about 34 years of age. The average stay in hospital of discharges has been around 2 years. Therefore, the discharges for the most part have had only a short hospitalization. The average age of deaths is approximately 54 years. This means a spread of an average of 20 years between admission and death. Of those remaining in hospital, the average age is approximately 46 years. Therefore, those remaining have been patients for an average of approximately 15 years.

In a special study of the number of years on books of those in hospital as of June 30, 1950, it was found that 37% of those admitted as first admissions, diagnosed as schizophrenia, had been patients 20 years or longer and of those admitted as readmissions, 12% had remained 20 years or longer. In a special study in 1948, 43% of the first admissions were still in hospital at the end of the year from their date of admission.

At the present time there are in round figures 3,500 schizophrenic patients in our four state hospitals, many of whom have been there for a long time and are resident in the so called "back wards". Is there an answer to this problem? Could early recognition of this disorder and early treatment be one of the answers? We believe it can. The medical profession, especially the general practitioner, could do much to aid in this by recognizing early symptoms and working out methods of treatment through mental hygiene clinics and private psychiatrists. The incidence of this mental disorder as admitted to state hospitals has remained fairly static over the past 40 years. Efforts should be made to reduce this ratio, because, when they are admitted to state hospitals there is a large possibility of long hospitalization.

Floral Eponym

Tabernaemontana

Tabernaemontanus, Jacob Theodor, 1520-1590

This German physician and botanist was born at Bergzabern. He was an apothecary in Wissembough, but later he studied medicine and became the physician of the Elector and Bishop at Speyer. Later be became the physician to the Palsgrave at Zweibrücken. He was also honorary citizen of Worms. He died in Heidelberg.

Tabernaemontana is a large genus of tropical shrubs and trees. T. coronaria is the well known Cape Jasmine.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Health Services for Preschool and School Age Child

Today, in Virginia, health services for children of preschool and school age are a combined effort of schools, physicians and local health departments. Every effort is made to get all children examined by their own physicians before entering school. Where this cannot be done, arrangements are made by the health department for examination in diagnostic clinics served by physicians selected by a panel appointed by the local medical society.

Such an approach is a far cry from the hurried medical inspection and mass methods of a past era to the modern health service program with its opportunities to observe defects early and make provision for their correction.

During the past year, 11,000 children in Virginia had preschool examinations at diagnostic clinics in rural areas. If the preschool population is estimated at 10% of the children in school, then 50,000 children entering school each year were left to be examined by doctors in their own offices. In two counties where health service diagnostic clinics are well established for the school age child and where school age groups were examined in clinics, corrections equalled the number of examinations.

In establishing health services for the preschool and school age child, the following principles are recognized:

1. Children should enter school with preschool examinations and corrections made.
2. The majority of medical and dental problems should be handled by private physicians and dentists without school help.
3. Teachers should be trained and encouraged to observe health habits and conditions of pupils.
4. Referral in health matters should be made to family physicians.
5. Where children cannot be seen by private physicians, diagnostic clinics should be available in the health departments.
6. Follow-up is a joint responsibility and arrangements should be made for assistance from public and private sources in circumstances where the families' economic condition warrants assistance.

The health services outlined above are in line with the definition of health as phrased by the World Health Organization, "That complete fitness of body, soundness of mind and wholesomeness of emotions, which make possible the highest quality of living and of service."

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Dec. 1952	Dec. 1951	Jan.-Dec. 1952	Jan.-Dec. 1951
Brucellosis	4	5	47	81
Diarrhea & Dysentery	131	216	2,418	3,163
Diphtheria	14	27	163	194
Hepatitis	149	120	928	151
Measles	174	517	15,578	14,510
Meningitis (Meningococcic)	12	10	196	121
Poliomyelitis	19	16	686	267
Rocky Mt. Spotted Fever	1	3	78	63
Scarlet Fever	98	89	823	990
Tularemia	4	5	46	40
Typhoid & Paratyphoid	2	6	91	69
Rabies in Animals	44	29	476	223

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

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Mrs. Robert H. Detwiler, Arlington

Alexandria Auxiliary.

The old Country Inn on South Washington Street was the setting for the buffet luncheon for more than twenty members of the Alexandria Auxiliary December 16.

Most of the business meeting was devoted to our chief project, the collection and distribution of women's and children's shoes at a local shoe center, located above Bradshaw's Shoe Store. Every Tuesday from 3:30 to 4:30 women and children sent by the Community Chest agencies, local schools, American Red Cross and the Public Welfare Department are supplied with shoes for 50¢ a pair. The small charge covers the cost of supplies for polishing and repairing the shoes.

Mr. Milton Blumenthal, manager of Bradshaw's, was guest speaker. He stressed the need for such a center in this community and presented a plan for enlarging the project.

Mrs. Milton Stein is in charge of the venture this year.

Shoes are constantly needed, especially children's sizes 11½ to 7½. They may be sent to Bradshaw's at 510 King Street in Alexandria.

After the meeting, over 50 toys were wrapped, to be taken to the annual Alexandria Pediatric Clinic (red feather agency) Christmas party.

Valda C. Anderson (Mrs. R. H.)
Publicity Chairman

The list of Standing Committees of the Alexandria Auxiliary, as listed in the December *Monthly,* should include Mrs. Robert Anderson as chairman of Publicity and Today's Health, and Mrs. James Moriarty as chairman of Public Relations as well as chairman of the Girl Scout Committee.

Arlington Auxiliary.

The Woman's Auxiliary to the Arlington County Medical Society held their annual dinner dance at The Washington Golf and Country Club on November 29, 1952. It was most successful and was enjoyed by all with almost a 100% attendance.

The Auxiliary conducted their 3rd annual TB Handicraft Sale on December 4th, 5th, 6th and 8th at the Arlington Trust Company Bank. Articles made by patients in the Sanitoria throughout the State of Virginia and by the home-bound patients in Arlington were sold and a total of $401.71 was realized. The money goes directly back to the individuals who made the articles, through a careful cataloging system.

Members of this Auxiliary also volunteered their help with the sale of TB Christmas seals at various booths in the county.

BOOK ANNOUNCEMENTS

Brain Surgeon. The Autobiography of WILLIAM SHARPE, M.D., New York City. The Viking Press, New York. 1952. xvi-271 pages. Cloth. Price $3.75.

Some people have the knack of being present when interesting and unusual things are going on. They usually have imagination and tell a good story. Such a person is Dr. William Sharpe. He was raised in the slums of Pittsburgh, Chicago, and Philadelphia, the son of an austere Presbyterian minister, and went to Harvard on a clandestine athletic scholarship in rowing. He landed in Cambridge with $100 in his pocket, three-fourths of which went for tuition. When he did not make good on the crew he was deprived of his meal ticket at the training table and had to make his own way. As he did not like waiting on the table he found jobs shifting scenery for theatrical companies. Later he drifted into tutoring in Hygiene I and by the time he got his A.B. he had saved up enough money to see him through medicine. Instead of waiting until the Harvard Medical School opened in the fall, he decided to go to Berlin and start his medical studies right away. He had only a reading knowledge of German, but he took a full course. As at Harvard, he chose outstanding professors; Waldeyer in anatomy, the younger Virchow in pathology, v. Bergman and Fritz König in surgery, Lassar in syphilis, du Bois-Reymond in physiology, Ernst v. Leyden in cardiac disease, P. Jacob in tuberculosis, and David Paul v. Hausemann in urology. In addition he joined the Saxonia Corps and acquired a taste for beer, a scar on his forehead and a "housekeeper".

In the three weeks Christmas vacation, he went to Russia and added Pavloff and Metchnikoff to his string of notable acquaintances. In addition he added a course in Philosophy by Professor Paulsen. In this course a thesis was required by May and since he had not started to write his, he took the Easter holiday for a trip to Italy so as to expedite the writing of the thesis. On his way he stopped in Vienna to see Billroth and v. Eiselsberg. He finally ended his journey on the Mediterranean at Levato where he found a "pension" with an elderly mother, a widowed daughter (age 20) with a child of 4 years. He had a gabled room overlooking the sea with windows on three sides. He became acquainted with a group of young Jesuit priests who had been expelled by the French Government. These would have converted him to their belief had it not been for Annunciata, the widowed daughter, who forbade her house to the priests. (She was opposed to the Church on account of a distressing experience she had suffered at the age of 14.)

When August approached he tried to persuade Annunciata to marry him and come to America. His thesis, which was long overdue in Berlin, seems to have been forgotten entirely.

He entered the Harvard Medical School in order to continue his tutoring in Harvard College. His teachers were Thomas Dwight in anatomy, Porter and Cannon in physiology, Reginald Fitz in medicine, Maurice Richardson in surgery, and Richard Cabot in diagnosis. He lived in Divinity Hall and had as his roommate Augustus Loring Richards, later a noted divine.

In the summer following his second year in medicine, Dean Briggs asked him to tutor a group of 29 Chinese students who had been sent to this country by the Chinese Government. This turned out to be more important than it seemed at the time.

His life as a medical student was not without excitement. One evening in the spring he was waiting for the street car on Massachusetts Avenue at Boylston when he noticed a girl having difficulty in mailing a letter, while holding a package under her arm. He stepped forward and held open the letter slot, just as the bottom of the paper bag gave way and a bottle of beer fell to the pavement and broke. He suggested that they get some replacements at a nearby delicatessen store. He saw her home with the half dozen bottles and the next thing that he knew was awaking in the middle of a double bed with a girl asleep on either side of him. The girl, Betty, had already ruined the career of a young Massachusetts Hospital surgeon, but Sharpe determined to reform her. She swore off drinking, learned to type, got a job and continued to keep house for him.

When the time to look for an internship came, he went to New York to take examinations at the Roosevelt Hospital. Returning sooner than he had expected, he found a Back Bay play boy in his place. He threw the interloper down stairs to the second floor and then to the pavement. An ambulance took him to the City Hospital and Sharpe

retired to his room in the Divinity School. Fortunately, his victim recovered and left the hospital after several weeks.

Dr. Sharpe's surgical internship at Roosevelt Hospital did not begin until January first. He spent the intervening six months in Baltimore with Hugh Young and Harvey Cushing. After two years at Roosevelt and another year under Cushing and Welch, he was appointed professor of surgery at the Harvard Medical School in Shanghai. President Eliot accompanied him to China. The highlight of his China experience was his operation upon the son of the President of the Chinese Republic for a fractured skull, for which he was paid $50,000.

After one year in China, he returned to New York to begin his life work. He had paid for his academic and medical education, a year in Germany, Russia and Italy, two years at Roosevelt Hospital and one and a half years at Johns Hopkins and now, after one year of teaching in China, he had saved $100,000 —quite a feat. There seemed to be no doubt but that he would be a success. His story is fascinating especially when he tells of his work. When he tells of other things it is diverting.

His discussion of intercranial hemorrhage of the new born; its frequency, clinical aspects and treatment is extremely valuable. He points out that a large percentage of cerebral palsies are due to a hemorrhage that does not cause immediate death or even marked symptoms for several weeks. He advises that prophylactic treatment is of course better obstetrics, but that many cases can be cured by repeated lumbar punctures if they are started soon enough.

M.P.R.

Physical Diagnosis. By HARRY WALKER, M.D., F.A.C.P., Professor of Clinical Medicine, Medical College of Virginia, Richmond, Va. St. Louis, The C. V. Mosby Company. 1952. 461 pages with 126 Illustrations. Cloth. Price $8.00.

There has been a great need for a textbook on physical diagnosis devoid of hackneyed terminology and rambling voodooism. In this first edition the Professor of Clinical Medicine at the Medical College of Virginia has a text clearly describing a practical approach to history taking and the performance and recording of the physical examination. Besides the usual considerations in a textbook of this nature, included is a discussion of the inspection, palpation and anatomic consideration of the thorax as well as an excellent chapter on auscultation of the circulatory system. Chapters on the Abdomen, Physical Diagnosis of Female Pelvic Disease, Neurological Examination, Psychiatric Examination, Diseases of the Respiratory System and Diseases of the Circulatory System are excellent treatises contributed by individual members of the faculty of the Medical College of Virginia. The last chapter is especially comprehensive and includes an excellent discussion on abnormalities of the heart beat. The book is enhanced by numerous illustrations, charts and an adequate index. The reviewer considers this text to be an important addition to one's diagnostic armamentarium and recommends it highly to both the student and physician.

H.S.Z.

Outline of Fundamental Pharmacology. The Mechanics of the Interaction of Chemical and Living Things. By DAVID FIELDING MARSH, Professor and Head of the Department of Pharmacology, West Virginia University School of Medicine. Charles C. Thomas, Springfield, Ill. 1951. xxxi-219 pages. Price $6.00.

The purpose of this book is to explain the aims and purposes of the pharmacologist for the student of chemistry, pharmacy or medicine or for the research worker in any of these fields. This is a very worthwhile object, for only too frequently is the role of pharmacology either not known at all in university and scientific circles generally, or its sphere of activity and opportunities is poorly recognized.

In the introductory pages an excellent historical discussion is given on the development of pharmacology. Then follow chapters on Biological Variation, the Response of Populations to Drugs, Bioassay, Biocomparison, Drug Antagonism, Methods of Drug Localization. These are followed by sections on Absorption and Distribution, Fate and Mechanism of Action of Drugs. The final chapters are concerned with Chemical Construction and Biological Action and Applied Pharmacology.

To students of medicine and graduate physicians this book presents in very readable form an introduction to pharmacology which should be useful in reaching an understanding as to the problems to be considered in the basic study of drug action as well as in practical drug therapeutics.

H.B.H.

EDITORIAL

Samuel Brown Morrison, 1828-1901

STONEWALL JACKSON'S PHYSICIAN

THE lonely little house at Guinea Station (6* on the Medical Map) is where Stonewall Jackson died, May 10, 1863. For local color and background one should read "Life and Campaigns of Lieut. Gen. Thomas J. Jackson" by the Reverend R. L. Dabney, D.D., Major in the Confederate Army and Jackson's Chief of Staff for several months. He tells of this great soldier—one of the world's greatest—dying of pneumonia after receiving a grievous battle wound on May 2nd. As all the world knows he was mistaken for the enemy while reconnoitering in the dusk and was shot by his own troops. He lost a great deal of blood before he could be moved back from the front line. When he "reacted" about midnight Dr. Hunter McGuire amputated his



SAMUEL BROWN MORRISON, M.D.

left arm and removed a bullet from his right hand under chloroform analgesia. The next day he was transported by ambulance to the Chandler farm, a distance of 25 miles, over country roads. In spite of these hardships his condition was considered favorable. The next day however, there was a turn for the worse and by the fifth day it was quite evident that he had pneumonia.

Dr. Douglas Freeman says that General Jackson "lived by the New Testament and fought by the Old" and it is interesting to read what Dr. Dabney has to say about the

*VIRGINIA MEDICAL MONTHLY **79**:112, 1952. The house and grounds are now a part of Fredericksburg and Spotsylvania National Military Park and are open to the public.

routine within the little house. The General had his servant, Jim, bathe the wounds with spring water frequently as it gave him comfort. Dr. McGuire remained at his bedside night and day and Mr. Lacy, his chaplain, held prayers each morning at ten o'clock after which the conversation turned to religion and the Bible. When the *centers* of Christianity after the *Crucifixion* came under discussion, General Jackson said that *headquarters* was a better term and wanted to know if anyone knew where *Iconium* was. He asked Lieutenant Smith to get out of his trunk a map which showed its location. At another time he stated that Joshua's report of the battle with the Amalekites was a model battle report for clearness, brevity, fairness, and modesty and that it rightly traces the victory to its real source, the blessing of God. At all times he was serene and optimistic. Such was the impression of a Doctor of Divinity. A modern military surgeon would probably be impressed by what this great general lacked in the way of treatment that any G. I. expects, and gets, today. There were no blood transfusions, no asepsis, no antibiotics, no air evacuation to a well equipped hospital, and no trained nurses.

On Thursday, the fifth post-operative day, a request was sent to headquarters for General Jackson's family physician, Dr. S. B. Morrison who was at the time chief surgeon of General Early's Division. He arrived at 2 P.M. and by that time the patient had been cupped and blistered, and mercury with antimony and opium had been administered. There was nothing left in the way of active treatment for the family physician to do. This was also the opinion of Dr. David H. Tucker, an expert on pulmonary diseases, who came from Richmond in consultation. Dr. Morrison, however, remained in attendance until General Jackson died the following Sunday.

Samuel Brown Morrison was born at "Bellevue", the family home near Brownsburg in Rockbridge County, Sept. 13, 1828. His father, the Reverend James Morrison, D.D., a native of North Carolina and a graduate of the University of that state, had settled in Rockbridge in 1818 as pastor of New Providence Church and for 38 years was a conspicuous figure in the religious and educational life of that section. His mother was Frances Brown, daughter of the Reverend Samuel Brown and Mary Moore Brown, whose tragic history is told in the "Captives of Abb's Valley."

After attending a classical school at his home and completing his academic training at Washington College at Lexington, he began the study of medicine. As was customary at that time, several years were spent as apprentice to his uncle, Dr. Luther Brown of Rogersville, Tennessee, and after two years at the University of Virginia he was graduated from the Department of Medicine in June, 1853. The following year was spent in postgraduate work in Philadelphia and at Bellevue Hospital in New York, the latter association being terminated by his father's illness and his determination to begin practice at home.

Soon after becoming established, Dr. Morrison married Mary Gold, daughter of Dr. William McDowell Gold, a prominent citizen and successful physician of Brownsburg. His reputation and practice grew rapidly and among his friends and patients was Major T. J. Jackson, later "Stonewall", who in 1857 had married his cousin, Anna Morrison.

Though sentiment in the Valley was largely against secession, nevertheless when Virginia left the Union no section rallied to her defense with greater loyalty. In April, 1861, Dr. Morrison entered the Confederate Service as an officer of cavalry. Four months later he became regimental surgeon to the 58th Virginia Infantry and the following year Chief Surgeon of Ewell's Division. In this capacity it fell to his lot

to amputate the leg of General Ewell, who was desperately wounded at the Battle of Groveton. After Sharpsburg the Division was commanded by General Early and Dr. Morrison remained Chief Surgeon until 1864, when he was made Medical Inspector, Second Corps A.N.V., a position he held until the close of the war.

Dr. Morrison was one of several physicians who attended General Jackson during his fatal illness. The General's left arm having been amputated Saturday night, on the following Wednesday night he showed signs of complications. Dabney, in his *Life of Jackson,* writes: "The chaplain was now (Thursday) dispatched to the Army to bring the General's family physician, Dr. Morrison, now Chief Surgeon of Early's Division. About two o'clock P.M., Dr. Morrison arrived. When he spoke to him the General looked up and said affectionately, 'That's an old familiar face.' His condition was now thoroughly examined and found critical." Dr. Hunter McGuire, in his account of the wounding and death of Jackson, states: "At my request, Dr. Morrison came today (Thursday) and remained with him."

"Bellevue" was occupied in 1864 by troops of the Federal General Hunter, a detachment camping for the night on the lawn. On departing, they left the body of a Confederate soldier hanging from a tree to be buried by Mrs. Morrison's servants in her garden. The house was spared, however, and at the close of the war Dr. Morrison returned and was soon busily engaged in practice.

Two younger brothers had also been in the service. Henry Rutherford, a Lieutenant of Infantry, lost his life at Spotsylvania Court House, while Robert Hall, after serving through the war as a private in the First Virginia Cavalry, studied medicine and practiced in Lexington.

In 1869, the year of the adoption of the new State Constitution, Colonel McLaughlin, former Commander of the Rockbridge Artillery, and Dr. Morrison were drafted by the Conservatives as candidates for the House of Delegates. They were elected and attended one session of the Legislature, but both resigned before their term of two years expired.

In 1873, Dr. Morrison moved to Rockbridge Baths and lived there until his death in 1901. In addition to serving the community he was in frequent demand as a consultant and his reputation as a surgeon brought him patients from surrounding counties and occasionally from a distance. Among these was Major Dabney, Jackson's Chief of Staff, on whom he operated for stone in the bladder. His surgery covered a wide range and, as there were no hospitals accessible, his operations were usually done in the home where he was assisted by his former pupil, Dr. E. S. McKean, or his son, Dr. H. R. Morrison. None of his work was published, but it is stated by his associates that he removed successfully several very large ovarian tumors and often operated for bladder calculus in cases that could not be relieved by the lithotrite, an instrument he seems to have used often. By frequent visits to professional friends in New York, he kept in touch with the newer procedures in the various fields of medicine. He operated for harelip, using steel pins, and his results were excellent.

Dr. Morrison was a member of the Medical Society of Virginia, but probably did not attend often. He was twice elected to the office of First Vice-President.

What Is Adequate Medical Care?

THE perennial struggle for the possession of the medical profession is off to a new start. In this connection it should always be borne in mind that benefit of medical care is primal and fundamental. All else is secondary. How the medical service

is distributed and how it is paid for may be important, but it is not fundamental. It is also agreed that the U.S.A. has at present the best medical care in the world notwithstanding its size and its diversity in population and local conditions. It should also be kept in mind that history demonstrates, although the demonstration has been obscured somewhat by politics and self-interest, that governmental management always causes a deterioration in medical care. Germany is a perfect example. In the last century it led the world in every phase of medicine but, when Bismarck began to experiment with social insurance, German medicine began to degenerate until now it is looked down upon by all the world.

Much has been made of the great increase in the number of accidental deaths. Accidental deaths now rank well within the ten highest death rates. They are preventable deaths and therefore the Social Security Administrator blames the medical profession. Serious and fatal accidents may occur in the home, in the factory, or on the road. Industrial accidents have been reduced by engineering improvements and by campaigns of education. Less has been done to decrease accidents in the home, and road accidents are on the increase. They can be prevented. If automobiles were abolished from the highways, deaths on the roads would become as rare as deaths from smallpox, and if no automobils were made that could run faster than 35 miles per hour, a death from an automobile accident would become as infrequent as a death from typhoid fever. Such means of prevention are impractical, but compulsory health insurance is certainly not the answer.

It has been said that 30 per cent of the nation lacks adequate public health service. This too has been blamed on the A.M.A., a characteristic procedure when the fault is on the other side. The facts are that the American Medical Association and its component societies have, from the very beginning, worked and fought for improved public health service. As a matter of fact the establishment of public health service and the improvement of medical education were the two planks upon which the Association was founded in 1847, and it has not deviated from its original principles since. The A.M.A. can not truthfully be blamed for this condition. What lack there exists is the fault of the taxpayers; they can have all the public health service that they care to pay for. No compulsory health insurance is needed in this area.

We come now to the part in which the voter is most interested personally, and it behooves us to be careful about our definitions. In regard to acute and self-limited diseases there is little room for disagreement as to what constitutes adequate medical care, but with chronic diseases, old age, and especially nervous and mental conditions, the point of view makes a vast difference. Take tuberculosis as an example. To a public health officer the care might seem adequate when all contacts are protected against the disease. A practicing physician would consider the treatment adequate when all signs of the disease had been eliminated. The social worker would add a program of rehabilitation. The patient might want in addition reimbursement for time lost. All these are relatively easy to determine and fall within limits that can be met. When, however, we come to neuroses, they are boundless and limitless. Before the voter determines to assume any part of the cost of medical care, he should have it clearly understood what is meant by adequate medical care and who is to do the deciding. Fuzzy thinking on this point has been the downfall of many prepayment plans.

SOCIETIES

Virginia State Board Medical Examiners.

Following is a list of those licensed by the Board at the session held in Richmond December 10-13, 1952:

LICENSED BY RECIPROCITY OR ENDORSEMENT OF CREDENTIALS

Dr. Katherine Patricia McGinnis Andrews, Charlottesville.
Dr. William Francis Barry, Jr., Richmond
Dr. Harry Bartton Beatty, Arlington
Dr. William Bradford Blake, Jr., Charlottesville
Dr. Ellen Frances Birchall, Charlottesville
Dr. Steve Hansford Bowen, Norton
Dr. Theodore R. Coots Brown, Richmond
Dr. Billy Brashear, Grundy
Dr. Walter Joseph Brennan, Jr., Colonial Heights
Dr. Walter Edward Bundy, Jr., Richmond
Dr. Richard Harvey Butler, Charles City
Dr. Lachlan Leigh Campbell, Warwick
Dr. Frank Andrew Carroll, Jr., Alexandria
Dr. Norman V. Cooley, Jr., Falls Church
Dr. Alice Elizabeth Drumm, Norfolk
Dr. James Lloyd Elliott, Norfolk
Dr. Harlan Franklin Fulmer, Richmond
Dr. Ferne Marie Georges, Martinsville
Dr. Henry Wayne Glotfelty, Richmond
Dr. William Eugene Greene, Jr., Hampton
Dr. Alexander Halperin, Alexandria
Dr. John Louis Harris, Jr., Roanoke
Dr. Meredith B. Hesdorffer, Martinsville
Dr. Edward Reginald Hipp, Jr., Charlottesville
Dr. August Christ Hofmeister, Jr., Blackburg
Dr. Charles Anthony Hufnagel, Washington, D. C.
Dr. James Brooke Hutt, Jr., Warrenton
Dr. Delmas Bernard Jones, Norton
Dr. James Leo Kelley, Jr., Chevy Chase, Maryland
Dr. Joseph Andrew Kiesel, Arlington
Dr. Hoyt Kirkpatrick, Jr., Alexandria
Dr. William Thurston Lady, Arlington
Dr. Herbert Gaines Langford, Richmond
Dr. Joseph Anthony Ledogar, Norton
Dr. Lillian Chambers Lindemann, Richmond
Dr. Joseph Charles MacKnight, Richmond
Dr. Robert Kent Maddock, Norfolk
Dr. Richard Joseph Mulvaney, Falls Church
Dr. Robert Bernard Neu, Falls Church
Dr. Desmond S. O'Doherty, Arlington
Dr. Lawrence Milton Pack, Arlington
Dr. Carroll Alden Peabody, Petersburg
Dr. Henry Lincoln Peckham, Jr., Washington, D. C.
Dr. John Christian Ransmeier, Alexandria
Dr. Rudolph Alton Reid, Suffolk
Dr. Luther Dabney Robinson, Richmond
Dr. Ralph W. Royer, Luray
Dr. William John Schewe, Arlington
Dr. Ronald Napier Shelley, Norton
Dr. Homer Alden Sieber, Durham, N. C.
Dr. Thomas Woodruff Stewart, Lynchburg
Dr. Ben Storer, Abingdon
Dr. Clementine Spurzem Tierney, Arlington
Dr. John Paul Urban, Norton
Dr. Fred Louis Vidal, Charlottesville
Dr. Ruth Reade McDonald Vingiello, Blacksburg
Dr. William Hugh Latimer, Westbrook, Jr., Franklin
Dr. John Mark Williams, Emporia
Dr. Hugh Hiter Willis, Jr., Chatham
Dr. Robert Terrell Wingfield, Charlottesville
Dr. Clinton Hannix Wooding, Jr., Norfolk
Dr. David Michael Wayne, Radford

Homeopaths:
Dr. David S. Stayer, Roanoke

LICENSED BY EXAMINATION:

Dr. Rolf Gunther Baginsky, Martinsville
Dr. Spencer Pippen Bass, Jr., Tarboro, N. C.
Dr. Elam Withrow Bosworth, II, Newport News
Dr. Charles Graham H. Bourhill, Catawba Sanatorium
Dr. John Edward Bryant, Jr., Miami, Florida
Dr. James Mitchell Fite, Minneapolis, Minn.
Dr. John Simon Fitzsimons, Richmond
Dr. Powell Graham Fox, Jr., San Antonio, Texas
Dr. Hugh Ross Fraser, Newport News
Dr. Ross Hillyard Hamilton, Stonega
Dr. Harry Hubert Howren, Jr., Alexandria
Dr. John McMillan Mennell, Fishersville
Dr. Nelson Glasgow Richards, New York, N. Y.
Dr. Juan Jesus Santos, Richmond
Dr. Torben Seear, Buffalo, New York
Dr. Carl Ellroy Stark, Reading, Penna.
Dr. David Tyler, Norfolk
Dr. Sol Morris Unger, Richmond
Dr. Robert Basye Webb, Jr., Virginia Beach
Dr. William Harvey Whitmore, Jr., Richmond
Dr. George Edward Wire, Jr., Portsmouth

Three chiropractors and two chiropodists were also licensed by examination.

The Tri-County Medical Society

Held its regular monthly meeting in Windsor on November 25th, with Dr. T. A. Morgan, Franklin, presiding. Thirty-two members and six guests were present. Following dinner and a brief business session, Dr. Walter B. Martin of Norfolk addressed the society on "Recent Governmental Trends in Medicine", and cited his observations on the governmental medical program in England. He mentioned the several ways in which our own government is already providing medical service for certain special groups,

and the constant efforts which have been made in Washington to expand the number of people receiving medical care at the tax-payers' expense.

The next meeting was scheduled to be in Sunbury, N. C. on January 27, 1953.

W. N. Eddy, *Secretary*

The Arlington County Medical Society,

At its regular meeting in November, unanimously adopted the following resolutions:

"That the Arlington County Medical Society would like to go on record as opposing the financial backing and, in some instances, the setting up of medical centers by big business and industry, and especially their claim that group practice is far superior to individual or partnership practice," and

"That members of the Society, in their relations with the press and the public in general, submit through the Board of Censors for clearance, all written or oral statements concerning medical subjects."

The following were elected as officers of Arlington Society for the year 1953: President, Dr. Lloyd B. Burk; vice-president, Dr. Donald C. McCollum; secretary, Dr. Robert L. Norment; treasurer, Dr. A. R. MacPherson. All are of Arlington.

Medical Society of Northern Virginia.

The meeting of this Society in Winchester, December 9, was well attended and there were a number of interesting case reports. The guest speaker was Dr. H. B. Mulholland of the University of Virginia who spoke on the current concepts of liver disease.

The following were elected as officers for the following year: President, Dr. Elizabeth Sherman, Front Royal; Vice-president, Dr. E. L. Grubbs, Front Royal; Secretary-Treasurer, Dr. Wm. C. Humphries, Woodstock; and chairman of the Censor Committee, Dr. Edmund Horgan, Winchester. Delegates and alternates to the State meeting were also named.

The Lynchburg Academy of Medicine

Held a business meeting at the Lynchburg General Hospital on December 8, at which time Dr. Clarence E. Keefer succeeded to the presidency, and the following officers were elected, as also delegates and alternates to the meeting of the State Society: Dr. John R. Saunders president-elect and Dr. George B. Craddock as vice-president. Dr. F. R. Whitehouse and Dr. J. E. Warren were elected trustees for a term of three years, and Dr. J. W. Davis for two years.

Dr. S. R. Arnold was appointed to represent the Academy at the Eighth National Conference on Rural Health to be held in Roanoke on February 26-28, and Dr. Ashby Coleman as alternate.

Dr. J. H. Allan of the University of Virginia was the guest speaker before the Academy at its meeting on January 12, his subject being "Cervico-brachial Pain". The meeting was held at the Lynchburg General Hospital.

Tazewell County Medical Society.

At the last meeting of this Society, the following were elected as officers for 1953: President, Dr. A. M. Tiernan, Jewell Ridge; vice-president, Dr. W. R. Strader, Richlands; and secretary-treasurer. Dr. Mary E. Johnston, Tazewell. Delegate and alternate to the State Society meeting were also named at this time.

Fredericksburg Medical Society.

At the December meeting of the Society, the officers were elected for 1953 as follows: President, Dr. H. D. Crow; vice-president, Dr. L. A. Busch; and secretary, Dr. John B. Rose. All are of Fredericksburg.

The Danville-Pittsylvania Academy of Medicine

Had its regular monthly meeting on December 12. After a short social get together and dinner, Dr. W. C. Winn, Associate Professor of Obstetrics and Gynecology at the Medical College of Virginia, gave an interesting talk on "Toxemias of Pregnancy". The new officers are Dr. John R. Eggleston, president, and Dr. Walter C. Fitzgerald, secretary.

Richmond Academy of Medicine.

At the stated meeting on January 13, papers were presented by Dr. Harry J. Warthen, Jr., on "Amputations in Diabetic Gangrene" and by Dr. David C. Wilson of University of Virginia on "The Treatment of Depression".

Dr. Guy W. Horsley, retiring president, gave his annual report followed by induction of the new officers. Committee appointments were also announced.

Albemarle County Medical Society.

On January 8, at the Hotel Albemarle, the Society held a supper meeting, following which the film was shown on "Medical Effects of Atomic Bomb."

NEWS

Local Committee for Roanoke Meeting, The Medical Society of Virginia.

At a recent meeting of the Arrangements Committee of the Roanoke Academy of Medicine, the following sub-chairmen were named to serve with Dr. David S. Garner as general chairman:

SCIENTIFIC EXHIBITS—Dr. Allen Barker
TECHNICAL EXHIBITS—Dr. Robert Hutchinson
ENTERTAINMENT —— Dr. Harry B. Stone, Jr.
HOTELS AND HALLS—Dr. Houston L. Bell
GOLF —— Dr. G. C. Gooch
PUBLICITY AND PRESS—Dr. Alexander McCausland
AUXILIARY —— Mrs. Philip Trout

Diamond Anniversary of Medical Progress.

The various states are designating their seventy-five year old guests of honor to the First Western Hemisphere Conference of the World Medical Association, to be held in Richmond, April 23 to 25. This will be in observance of the lengthening of life and the constant improvement of human health.

At the Richmond conference, guests will be greeted by Dr. Louis H. Bauer, president of the American Medical Association, and by leaders of Latin American medical societies. Besides scientific sessions, there will be opportunities for visiting historic sites in Virginia, including the 18th century Williamsburg restoration. Expenses of the conference, and of guests and delegates, are covered through a grant by A. H. Robins Co., Inc., ethical pharmaceutical house founded in Richmond 75 years ago this year.

The Tri-State Medical Association of the Carolinas and Virginia

Is to hold its annual meeting in Durham, March the 2nd and 3rd, under the presidency of Dr. J. Asa Shield of Richmond. An interesting program is being arranged and a large attendance is expected. Dr. R. B. Davis of Greensboro is secretary.

The Richmond Academy of General Practice

Met at the Academy of Medicine Building on January 20, at which time they installed new officers, conducted a short business session and heard a paper by Dr. William E. Apperson of the State Health Department on "The General Practitioner and Tuberculosis". Dr. R. G. McAllister became president, succeeding Dr. William A. Young, Dr. W. Linwood Ball was installed as president-elect; Dr. Theodore Kohn became vice-president; Dr. F. E. Oglesby took the office as secretary; and Dr. Harold I. Nemuth was inducted into office as treasurer. Two new directors were also installed—Dr. Richard Crossen and Dr. H. Mason Wingfield.

To Head Virginia Hospital Service Association.

Dr. Richard J. Ackart, director of the University of Virginia Hospital, was on January 9 elected executive director of the Virginia Hospital Service Association (Blue Cross), succeeding Mr. M. Haskins Coleman who resigned after holding the position since 1935. Dr. Ackart will enter upon his new duties on February 1.

The Richmond Eye, Ear, Nose and Throat Society,

At a recent meeting elected Dr. J. Warren Montague as president, and reelected Dr. Charles N. Romaine as secretary-treasurer. The Society meets at the Commonwealth Club, Richmond, on the first Tuesday in January, March, May and October.

International College of Surgeons.

A regional meeting of the Pennsylvania and surrounding states surgical divisions of the United States Section of the International College of Surgeons will be held in Philadelphia with headquarters at The Bellevue-Stratford on February 13 and 14. Dr. W. Wayne Babcock is honorary chairman, Dr. Moses Behrend is chairman, and Dr. Albert Behrend is co-chairman of the meeting.

Qualifying examinations for Fellowship in the United States Section of the International College of Surgeons will be held during 1953 on May 4 and 5, August 10 and 11, and November 2 and 3. The examinations will be given at the Cook County Graduate School of Medicine, and the Cook County Hospital. Applicants are requested to address communications as follows: Harry A. Oberhelman, M.D., Secretary, Qualification and Examination Council, 1516 Lake Shore Drive, Chicago 10, Illinois.

Kiwanians' $82,000 Will Finance Spastic Research at Children's Memorial, Chicago.

Basic problems of the deeper brain areas in cerebral palsy will be studied with new techniques over

the next five years at Children's Memorial Hospital in a project financed by the Illinois-Eastern Iowa District of Kiwanis International. The Kiwanians, who had been asked by their leaders to contribute $75,000 for the work, responded with pledges totalling $82,000, and 15 of the 174 clubs are yet to report.

The research team which will carry out the work—all of whom are contributing their services—consists of prominent specialists.

Kiwanis has set up a special Spastic Paralysis Research Foundation to administer the research funds. It is believed to be the first time that a coordinated, intensive and long-range research effort has been made to throw light on the more fundamental problems of cerebral palsy.

Postgraduate Medical Course at Chapel Hill, North Carolina.

The faculty of the School of Medicine of the University of North Carolina School of Medicine announces the first postgraduate medical course to be given at the new North Carolina Memorial Hospital in Chapel Hill. This will be a 3 day intensive program on Diagnostic and Therapeutic Measures Applicable to Office Practice, March 4, 5, and 6, 1953.

Interested physicians may secure detailed information regarding this course by writing Doctor W. P. Richardson, Assistant Dean for Continuation Education, U. N. C. School of Medicine, Chapel Hill, N. C.

American Academy of Obstetrics and Gynecology.

More than 1100 Fellows and non-members attended the First Annual Clinical session of the Academy in Chicago December 15-17, 1952. Dr. Robert A. Kimbrough, Jr., Philadelphia, was installed as the third president of the Academy. Dr. Bayard Carter, Durham, N. C., was chosen president-elect to take office next year.

Dr. C. Paul Hodgkinson, Detroit, was elected secretary.

The Academy's Second Clinical Session will be held in the Netherland Plaza Hotel, Cincinnati, December 14-16, 1953.

Texts of formal papers presented at the first session will be printed in the Academy's new journal, "Obstetrics and Gynecology", beginning with the first issue in January 1953. Published monthly, the journal will be edited by Ralph A. Reis, Chicago.

Ciba Gets New Chemical Research Director.

Dr. Emil Schlittler, international authority on the chemistry of alkaloids, has been appointed Director of Chemical Research for Ciba Pharmaceutical Products, Inc. He succeeds Dr. Caesar Scholz, who came to Ciba twelve years ago to set up hormone manufacturing and is returning to Ciba Limited, Basle.

The Physician's Bulletin,

House publication of Eli Lilly and Company, has a new format. Starting in January, 1953, the new "PB" will be 5 x 7¾ "pocket-book" size, and is increased from twenty-four to thirty-two pages. Formerly published six times a year, the new "PB" will be issued ten times a year, appearing every month except August and December.

Pan-Pacific Surgical Association.

The executive office of the Association announces that the Sixth Pan-Pacific Surgical Congress will be held in Honolulu in November 1954. Included in the scientific program will be sessions in all divisions of surgery and related fields, with papers presented by topflight surgeons from the Pacific Area countries.

For further information concerning the Sixth Congress or membership in the Association, doctors may write to the Pan-Pacific Surgical Association, Suite 7, Young Building, Honolulu, Hawaii.

OBITUARIES

Dr. Claude C. Coleman,

Renowned neurosurgeon of Richmond, died January 9th after a long illness. He was a pioneer in neurosurgical surgery in the United States and had received many honors in his special field. He was seventy-three years of age and a graduate from the Medical College of Virginia in 1903. After graduate study at Polyclinic Hospital in New York City, he practiced general surgery in Richmond and began specialization in neurosurgery about 1915 when the science was in its infancy. During World War I, he served as chief of the school of brain surgery at

Fort Oglethorpe and in World War II he was civilian consultant in neurological surgery to the surgeon-general. He became professor of neurological surgery at the Medical College of Virginia in 1924 and chief of that department. His positions and honors were many. He was associated with the Medical College of Virginia for forty-two years, resigning his position in June 1951. His wife and four children survive him.

Dr. Lawrence Thomas Royster,

Founder and for some years head of the department of pediatrics at the University of Virginia, died at his home there on January 7, after a long illness. He was a native of Norfolk and was prominent in community life and medical affairs there until he went to the University in 1923. He was seventy-nine years of age and a graduate of the University of Virginia in 1897. He was one of the original members of the State Board of Health which position he retained to the time of his death. He was a member of many pediatric organizations in which he took an active part. His wife died many years ago.

Dr. John Otto Boyd, Sr.

Dr. John Otto Boyd, Sr. passed away January 1, 1953. He graduated in Medicine from the University College of Medicine, Richmond, Virginia, in 1905. He began his practice in Roanoke, Virginia, in Obstetrics and Gynecology in 1906. He was past president of the Roanoke Academy of Medicine and the Roanoke Kiwanis Club. He was a member of the South Atlantic Society of Obstetrics and Gynecology, The Medical Society of Virginia and the American Medical Association. He was closely associated with the Memorial and Crippled Children's Hospital, of Roanoke, since its inception and played an important part in its organization.

He is survived by his wife, two sons and two daughters.

The Roanoke Academy of Medicine and the community have suffered a great loss of a fine physician and surgeon and Christian gentleman by the death of this distinguished member.

THEREFORE, BE IT RESOLVED that a copy of this be sent to the family, spread on the minutes of this meeting of the society, and a copy forwarded to the Virginia Medical Monthly.

W. W. S. BUTLER
MORTIMER WILLIAMS
W. L. POWELL, *Chairman*

Dr. Walter P. Hammer,

Formerly of Arlington but later of Falls Church, died July 14. He was sixty-two years of age and a graduate of the Chicago College of Medicine and Surgery in 1916. He had been a member of The Medical Society of Virginia since 1937.

Dr. S. E. Massey,

Who formerly practiced in southwest Virginia and West Virginia, died August 31. He was sixty-eight years of age and graduated from the Medical College of Virginia in 1908. He retired in 1938 and had since been living in New Smyrna Beach, Florida. He was a member of The Medical Society of Virginia. His wife survives him.

Dr. H. Graham Stoneham,

Waverly, died January 12 in a Richmond hospital. He was sixty-two years of age and a graduate of the University of Maryland Medical School in 1913. He served in the Medical Corps during World War I. He was a thirty-second degree Mason and active in medical affairs in his community. He is survived by three sons.

Dr. William Alexander Murphy,

Staunton, was found dead by the side of the road near there early December 21, due to an accident. He was seventy-one years of age and a graduate of the University of Virginia in 1910. He had practiced in Augusta County since 1928. He served in World War I with the rank of major in the Medical Corps. He was formerly a member of The Medical Society of Virginia. A sister survives him.

Dr. Frank L. Hughes,

Ashland, died suddenly January the 7th. He was fifty-seven years of age, a graduate in medicine from Columbia University in 1919, and had been connected with the Veterans Administration. He was a bachelor.

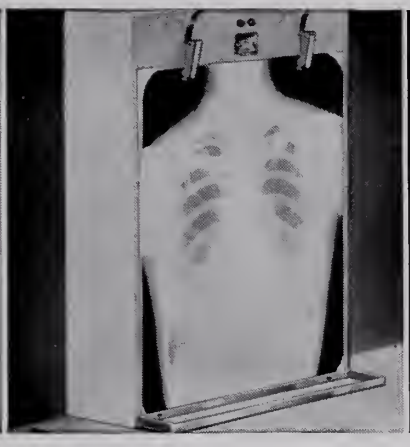
Dr. C. Earle Johnson,

For several years superintendent of the DeJarnette Sanatorium near Staunton, died January 9. He left Virginia several years ago to take charge of a sanatorium in Meridian, Mississippi, where he had since made his home. He was forty-six years of age and a graduate of the University of Colorado in 1931. His wife and a daughter survive him.

There's a GE viewer just right for you!



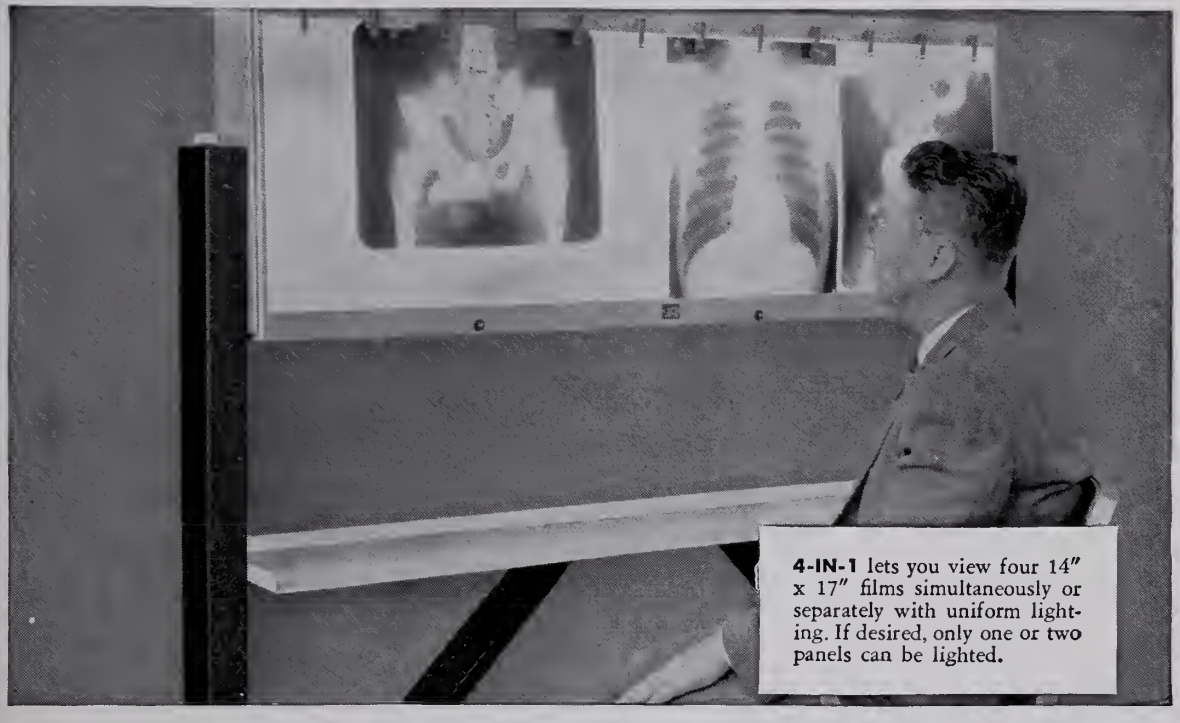
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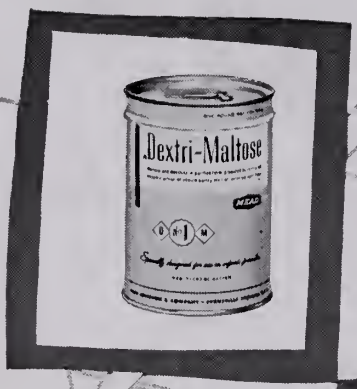
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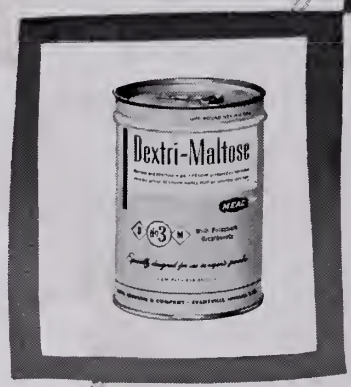
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OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY

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GUEST EDITORIAL

The Opportunity for Study and Investigation in Practice

WE PHYSICIANS are fortunate in that we have the ever present opportunity to learn, and are constantly challenged by the fact that there is much new presented to us every year with which we must make ourselves familiar, as well as much old that we must review. What appear to be fundamental concepts of physiological processes today may be changed tomorrow because of new discoveries or re-evaluation of these concepts.

It is this challenge that keeps our interest stimulated so that our work need never become dull. Physicians in every specialty have this opportunity, but that of the general practitioner seems to be the greatest since he has a broader field to cover. He can always find something new and fascinating to discover for himself each day and thus maintain his enthusiasm. He can review what he once learned and often in doing so find something entirely new.

The opportunity to do scientific medicine is not lost in practice. As students and house physicians we were given all types of patients to examine, study and treat. The signs and symptoms, pathological physiology, pharmacology and therapy were reviewed, and the patient's emotional reaction to his disease was considered. Many laboratory facilities were at our disposal, consultants were available in all specialties, and the diagnosis often became obvious as the different links in the diagnostic chain were fitted together to make a clinical syndrome with which we were familiar.

The physician in practice has the same problems, but often with fewer facilities and without available consultation. This does not make the problems less intriguing, but more so, and he can often arrive at a correct diagnosis alone or with the help of minimal facilities if he observes carefully and draws thoughtful conclusion from his observations. The pleasure thus afforded is worth many hours of thought and work. Each patient therefore presents an opportunity to do scientific medicine since science is not a matter of gadgets and special equipment, but more often a matter of observation, recording and evaluation.

We sometimes hear young men bemoaning the lack of opportunity to continue with clinical investigation because of the necessity of going into practice. It is true that one cannot select the type of problems presented in practice, nor can all of the facets of the investigation be controlled; however, each patient that is seen in practice is a problem in clinical investigation. Pathological physiology in all of its manifestations is encountered and can be studied. One can make observations, can accumulate scientific data and make contributions to medical literature by studying the patients seen

in practice. He can review the normal and abnormal physiology of his patients, can compare his work and observations with those of his colleagues in large centers and often finds himself happier as a result of this comparison. He need not lose his investigative interest or perspective, nor need he fall far behind these colleagues in his knowledge. This does require extra work and reading, but the satisfaction gained is worth the effort.

The infectious enthusiasm of our medical school teachers which we absorb is often lost because it is not kept alive after we leave their association. An academic atmosphere depends on the individuals who create it, not on the building in which it is created. Therefore, each physician can create his own academic atmosphere within himself by study and by association as much as possible with others who make the same effort. This, too, is infectious and will spread to other physicians, helping to create in them the enthusiasm for study, thus allowing them more pleasure from their work.

It is not easy, we are sure, for the physician in practice always to do what he wishes to do, because the pressure of work often keeps him from reading and study, but if he continually makes an effort to reserve a little time each day for this purpose and to consider each patient an intellectual challenge, he will obtain much satisfaction and maintain a constant enthusiasm for his work.

It has been said that the study of medicine is a plea ure, but the practice is a chore. This is probably true if practice is done without study.

JULIAN R. BECKWITH, M.D.
Clifton Forge, Virginia

Floral Eponym

MACADAMIA

MACADAM, JOHN, 1827-1865

John Macadam. M.D. Secretary of the Victoria Philosophical Institute, studied medicine at the University of Glasgow and chemistry at Edinburgh. He was a member of the legislative Assembly of Victoria (1859-64) and Postmaster General (1861-2). He died at sea while returning to New Zealand.

Macadamia is a genus of five species of slow growing Australian trees . M. ternifolia is known as the Queensland nut.

DON'T DO THIS FOR ASTHMA*

Oscar Swineford, Jr., M.D.,
University Hospital,
Charlottesville, Virginia

In 1932, "An Analysis of the Work of the First Year of the Allergy Clinic of the University of Virginia Medical School"[1] was read before the Annual Meeting of this Society. In the introduction to that report, one of the comments was, "The average physician should be able to diagnose and treat the allergic diseases with the same facility and confidence with which he diagnoses and treats other diseases of the cardio-respiratory, genito-urinary, gastro-intestinal, neuro-muscular, and muco-cutaneous systems." In the twenty years since then there have been perhaps 100,000 allergy patient visits, 39,977 in 1946-1950 inclusive. A large percentage of these visits were made by asthma victims. In studying these cases many therapeutic errors have been observed. Tuft[2] has recorded similar observations. This extensive experience has led to the reluctant conclusion that the average physician of today manages asthma far less effectively than it was hoped he would twenty years ago. An analysis of and recommendations for the correction of some of the more commonly observed errors in the management of asthma forms the basis of this anniversary report from the University of Virginia Allergy Clinic. To emphasize these errors, fifty-odd "Don'ts" are discussed dogmatically under the headings: symptomatic treatment, treatment of infection, elimination diets, information obtained from skin tests, injection of allergens, classification of asthma, and miscellaneous.

Symptomatic Treatment

In asthma the patient wheezes and is short of breath because his airways are narrowed. The narrowing is due to increased secretions, swelling of the mucosa and submucosa, and to spasm of the bronchial muscles. The relative importance of these three factors varies from patient to patient and from time to time in the same patient. Drugs most effective in correcting these factors are: the sympathomimetics, xanthines, expectorants, sedatives, and, more recently, ACTH and cortisone.

The Sympathomimetics relieve asthma because they dilate the bronchi by direct stimulation of the bronchodilator muscles, absorb exudate and reduce swelling, and increase vital capacity.

Don't Over-Dose with Aqeous Adrenalin. 0.2 cc. of 1:1000 adrenalin (epinephrine) usually acts quickly and effectively for several hours. Repeat 2 or 3 times at 10-minute intervals if necessary. Additional or larger doses are not apt to help when enough has been given to speed the pulse perceptibly, or to cause tremor, palpitation, apprehension, or pallor. It seldom causes troublesome side effects when just enough is given to relieve the attack. Most supposed instances of intolerance are due to all-too-common over-doses of 0.5 to 1.0 cc.

Don't Hesitate to Teach Asthmatics to Give Themselves Adrenalin. The knowledge that prompt relief is at hand removes much of the fear which so often converts a mild attack into a severe one.

Don't Use Adrenalin in Oil to Relieve an Acute Attack. It takes effect slowly as a rule. Its proper use is to maintain relief gotten from aqueous adrenalin or other remedies and to abort regularly recurring attacks.

Don't Give Adrenalin in Oil Until It Has Been Thoroughly Emulsified by warming in the hand and shaking vigorously for one to two minutes. One ampoule of adrenalin in oil contains the equivalent of 2.0 cc. or 10 normal doses of aqueous adrenalin. Unless it is thoroughly emulsified, severe adrenalin over-dose reactions are to expected.

Ephedrine

Ephedrine acts more slowly and less effectively than adrenalin. It is effective by mouth in doses of 25 to 50 mg. It may cause wakefulness at night and nervousness during the day. Its chief uses are to relieve mild attacks and chronic mild wheezing and to abort recurring attacks. Many good combinations of ephedrine, barbiturates, xanthines, and one with potassium iodide are on the market.

Don't Expect Ephedrine to Relieve Severe Attacks.

Don't Expect Adrenalin 1:100, Isuprel 1:200,

*From the Allergy-Arthritis Division, Department of Internal Medicine, University of Virginia Medical School, Charlottesville, Va.

Read before the Annual Meeting of The Medical Society of Virginia at Richmond, September 28-October 1, 1952.

Vaponephrine, or other nebulized preparations to relieve severe attacks. Their effectiveness is comparable to but is quicker and more transient than ephedrine by mouth.

Don't Let Patients "Chain Smoke" Their Nebulizers.

Don't Use Substitutes for Adrenalin and Ephedrine Routinely.* They are not as effective as a rule, but they can be tried in the occasional case when adrenalin and ephedrine are not well tolerated.

XANTHINES relieve asthma by relaxing constricted bronchi, stimulating the respiratory center and increasing vital capacity. Aminophylline is the most widely used one. Intravenously it is the most effective remedy for troublesome attacks of asthma which are resistant to adrenalin.

Don't Expect Aminophylline by Mouth or By Rectum to Relieve Severe Attacks. These routes are effective for mild attacks and for prophylaxis. Gastric or rectal irritation sometimes prevent their continued use.

Don't Use Intramuscular Aminophylline, in spite of the label on the ampoules. It is cruelly painful as a rule. The 2.0 cc., 0.5 gm. "intramuscular" ampoules are used intravenously, without dilution, in this clinic. They are cheaper and handier to use than the 10 to 20 cc. sizes.

Don't Give Aminophylline Intravenously Rapidly. 0.25-0.5 gm. intravenously should take 3 to 5 minutes. A 25-26 gauge needle lessens the tendency to painful extravasations. Stop the injection immediately if the patient complains of anything except nausea, a queer taste, or flushing. Nausea helps to relieve asthma frequently. Truly untoward reactions are rare, although several deaths have been reported after intravenous aminophylline given for relief of cardiac asthma due to acute coronary insufficiency.

Other xanthine preparations are effective, but are less widely distributed. If aminophylline causes reactions, caffeine sodium benzoate can be substituted by mouth or injection, quite satisfactorily.

EXPECTORANTS.

POTASSIUM IODIDE is the most widely used, the oldest, and perhaps the most effective expectorant for relief of asthma. It is effective in keeping sputum fluid, but it doesn't seem to liquefy sputum which is already thick and tenacious. Occasionally, no other remedy is needed.

Don't Prescribe Potassium Iodide Unless Direct Questioning Discloses No Troublesome Reactions To It.

Don't Use Compound Tincture of Benzoin, Camphor, Menthol Inhalation. Plain steam will do as well and does not cause the troublesome reactions sometimes caused by strong smelling drugs.

Many allergists concoct effective expectorant formulae from ipecac, ammonium chloride, ether, chloroform, guaiacols, volatile oils, and citrates.

SEDATIVES.

Don't Use Morphine Or Its Derivatives. They are sensitizers, respiratory depressants, anti-expectorants, habit-formers, often lethal, and are unnecessary.

BARBITURATES may be helpful in three ways: by counteracting the stimulating effects of sympathomimetics and xanthines, by reducing the hyperexcitability of the respiratory reflexes, and by relaxing the smooth muscles of the bronchi. They are widely used and are usually well tolerated. CHLORAL HYDRATE is a frequent substitute. DEMEROL, though less desirable, may be helpful, too. But all three drugs may sensitize, depress respiration, and lead to addiction.

Don't Give Any Sedative Without Being Sure It Has Not Caused Asthma, Mental Aberration, Respiratory Depression, Or Other Undesirable Reactions Previously. Respiratory depression, which many sedatives cause, must be avoided in the tired asthmatic.

PARALDEHYDE should be used more often. It does not sensitize nor depress respiration in pharmacological doses.

OXYGEN. *Don't Use Oxygen Routinely.*[3] Oxygen rarely relieves asthma. It does nothing to reduce swelling, secretion, or bronchial spasm. On the contrary, oxygen is a potent antiexpectorant. It is probably responsible for the troublesome inspissation of sputum in many cases of status asthmaticus. Most asthmatics oxygenate their blood and blow off carbon dioxide adequately. Oxygen may occasionally reduce the respiratory effort sufficiently to cause a dangerous retention of carbon dioxide. In the cyanotic asthmatic, oxygen may be used cautiously and only as long as he is cyanotic. It is best given

*Orthoxine, Isuprel, racephedrine, benzylephedrine, propadrine, neosynephrine, butanephrine.

by intermittent demand positive pressure to enhance expiratory loss of carbon dioxide. The asthmatic who is receiving oxygen should be under constant observation. Oxygen should be stopped promptly if cyanosis deepens, if mental acuity lessens, or if respiration becomes shallower or slower.

The oxygen tent without oxygen but with filtered, cooled, and moistened air protects the patient from many inhalant allergens, is not dangerous, and fulfills the demands for dramatic therapeutic ritual.

The chief reasons for not using oxygen routinely are: it doesn't help the asthma and, by diverting the physician's attention, its use tends to deprive the patient of effective remedies. He survives the attack in spite of and not because of oxygen. There are exceptions, of course.

ACTH and Cortisone are symptomatic remedies. They do not cure, nor is there evidence that they will prevent late complications of chronic asthma.

Don't Use ACTH or Cortisone Except: (1) to relieve status asthmaticus; (2) when prolonged treatment, based on comprehensive and repeated analyses of the patient's asthma problems, has failed; (3) to supplement unsuccessfully treated seasonal pollen asthma.

Status asthmaticus means asthma which has not been relieved by adrenalin, aminophylline, potassium iodide, sedatives, and antibiotics in pharmacological doses. 25 mg. ACTH intramuscularly every 4 hours improves status asthmaticus within 4 to 20 hours usually. An initial slow I.V. drip of 10-15 mg. in 1000 cc. of 5% glucose seems to bring quicker relief at times. Reduce the dose and lengthen the interval between doses, rapidly, as soon as the attack subsides. Then stop ACTH.

Cortone usually takes several hours longer than ACTH to relieve severe asthma. Otherwise it seems as effective. It works faster by mouth than injection, a real advantage. An initial oral dose of 100 mg., then 75 to 50 mg. every 4 to 6 hours, brings relief in 12 to 30 hours in all but the most severe attacks. The dose should be lowered and the interval lengthened, as with ACTH, as soon as the attack subsides.

Oral cortisone is preferred as maintenance therapy in chronic asthma resistant to other therapy. After relief is obtained use the smallest ration which will keep the patient comfortable.

Antihistamines are apt to be poor anti-asthmatic remedies.

Don't Use Antihistamines Until Sympathomimetics, Xanthines, Sedatives, and Expectorants Have Failed. Antihistamines may further inspissate sputum. They can be used for their sedative and adrenalin-sparing effects to supplement the sympathomimetics and xanthines. They seem to be more effective in children than in adults.

Treatment of Infection

Infection alone or complicating atopy is a common cause of severe asthma. Infection should be assumed to be present when the patient coughs himself into an attack of asthma and there is pus in the sputum or in the nasal discharges; when the nasal and pharyngeal mucosae are red; when the uvula is red and swollen or wrinkled; when there is fever or leucocytosis; or when there is evidence of sinus disease. Acute infectious asthma responds to specific antibacterial therapy almost as promptly as other infections do. Asthma associated with chronic infection responds favorably but less dramatically.

Aerosol Therapy, using any standard nebulizer and any convenient source of clean compressed air or oxygen, is frequently an effective adjunct in controlling bronchial infection. In this clinic 25,000 units of penicillin and 25 milligrams of streptomycin in 1 cc. of either 1:10,000 adrenalin, 1:1000 isuprel, or 0.1% neosynephrine is nebulized every 2 to 3 hours to supplement other antibacterial therapy. Bacitracin, polymyxin, sodium caprylate and other antibiotics have been used when indicated by culture and sensitivity tests.

Several precautions are necessary for the successful treatment of infectious asthma.

Don't Stop an Effective Antibacterial Agent Until the Episode Being Treated Is Over. Failure to continue the effective agent for from five to ten days often leads to mild chronic infectious asthma.

Don't Continue One Antibacterial Agent Unless It Produces Striking Benefits within three or four days and disappearance of pus within seven to ten days. Change to another.

Don't Forget That Suppression of One Type of Organism May Promote Growth of Other Organisms, particularly pyocyaneus, aerogenes and proteus, and occasionally monilia. Therefore, repeated cultures are necessary when infection persists or flares up

during treatment. The antibacterial agents must be changed with the changing flora.

Don't Fail to Seek Help from the Rhinologist in Infectious Asthma. He is an indispensable partner in its treatment. He should lavage antra, aspirate the other sinuses, remove polyps, straighten obstructing nasal septa, employ X-ray therapy and other conservative but vigorous treatment. Radical sinus surgery is still necessary occasionally.

Don't Ignore Nasal Polyps. They should be removed as they form in order to eliminate the role of the naso-bronchial reflex in the production of asthma. They are seldom seen except in the presence of allergy plus infection.

Elimination Diets

Elimination diets are essential to the management of asthma. But several precautions are necessary to prevent their misuse.

Don't Tell Patients They Are Allergic to a Food Unless Avoidance of It Is Beneficial and Eating It Causes Aggravation of Asthma.

Don't Tell a Patient He Is Allergic to a Food Because He Has a Positive Skin Test to It. Positive skin tests are discussed later.

Don't Eliminate a Food from a Patient's Diet for Longer Than a Specified Diagnostic Period of three or four weeks unless the asthma is better when the food is avoided and worse when it is eaten. In this case, the food should be avoided indefinitely.

Don't Advise the Reduction of Intake of a Suspected Food in a Preliminary Elimination Diet. Instead, all traces of foods suspected by history or skin test should be avoided for a trial period of three or four weeks. The success of elimination diets depends largely upon the thoroughness with which the patient is told how to avoid suspect foods in disguised form. For example, the physician should remind the patient that mustard may be found in pickles, commercial mayonnaise, canned soups, and baked beans; egg white may be found on baker's rolls; milk in baker's loaf bread; wheat in gravy, fried chicken, spaghetti, macaroni, noodles, and creamed soups.

Don't Hesitate to Eliminate Milk or Any Other Food for a Trial Period, when suspected by history or skin test. No one food is essential. Milk is a very convenient food but is more a housekeeping and dietary habit than a necessity. By the same token:

Don't Fail to Prescribe a Balanced Diet from permitted foods if the elimination diet is to last longer than 2 or 3 weeks. Elimination diets are disconcerting more because they disturb food habits and fads than because they disturb nutrition.

Information Obtained from Skin Tests

Don't Assume That a Positive Skin Test Indicates Clinical Sensitivity to the reacting antigen. A positive skin test is simply an etiological lead. Before the doctor or the patient can assume a causative role from a reacting food or inhalant, the patient must improve when avoiding the antigen and get worse when in contact with it, and/or he must be improved by injections of it.

Skin tests, with some reservations, reflect immunological experiences. A positive skin test represents pre-clinical, post-clinical, sub-clinical, or clinical sensitivity. A positive tuberculin skin test indicates that there has been an immunological experience with tubercle bacilli. Clinical tuberculosis cannot be implied from the positive test alone. It serves as an indication for further diagnostic studies. The same can be said for positive skin reactions to dust, egg, ragweed, and other allergens.

Don't Think of Skin Tests and Asthma Diagnostic Studies As Synonomous. Skin testing is helpful only in finding the causes of atopic asthma. They are useless in determining other causes of wheezing discussed below.

Injection of Allergens

It is important and undeniable that allergen injections do relieve asthma frequently. The mechanism by which relief is obtained from allergen injections is not clear. Whether it be due to desensitization, hyposensitization, blocking antibody production, non-specific induction of the adaptation phase of the alarm reaction, or other mechanism is not germane to this discussion.

Don't Start Allergen Injections Until Food and Inhalant Avoidance and Treatment of Infection, When Present, Have Failed to control the asthma. A notable exception is that treatment of seasonal pollen cases should be started as soon as the diagnosis is made.

Don't Expect Prompt Relief from Injections. It may take months to get satisfactory results. Relief from a few days of co-seasonal treatment with pollen

extracts is an exception to this rule.

Don't Inject Extracts Just Because the Skin Test Is Positive. In this clinic there have been hundreds of examples of improper prior treatment of: grass pollen asthma with ragweed extract and *vice versa;* simple dust asthma with ragweed extract (in spite of the fact that they were better during the ragweed season than at other times); simple infectious asthma with dust extracts. It should be obvious that extracts for injection therapy should be selected from allergens to which the patient is exposed when he has symptoms. The likelihood of relief seems greater when there is the history of asthma from as well as a positive skin reaction to the allergen selected for injection.

Don't Over-Treat. A troublesome local reaction or an exacerbation of asthma or of nasal symptoms soon after an injection usually means over-dosage. Subsequent doses should be reduced well below the reacting dose. In allergy therapy the thought is appropriate that if a little is good, less (not more) may be better.

Don't Stop the Injections Because There Are Reactions to Them. Instead, dilute the extracts decimally until they no longer react. Dilutions of 1:1,000,000, or less, are sometimes necessary. Extracts which cause symptoms in conventional doses are usually helpful when suitably diluted.

Don't Interrupt Injection Schedules for Intercurrent Asthma, Colds, Other Illnesses or Pregnancy. This is a common practice which serves no purpose.

Classification of Asthma

Don't Assume That a Given Patient's Asthma Is Due to a Single Cause. Asthma is a syndrome due to narrowing of the airways, which can be precipitated by a variety of causes. These causes may be classified, for purposes of simplification, into atopic (food, inhalants, and drugs), infectious, reflex (nasal polyps, thyroid nodules), physical (heat, cold, dampness, sunlight), psychogenic, emphysema, bronchial obstruction (cancer, foreign bodies, mediastinal tumors), acute left ventricular failure. Most cases are due primarily to atopy and/or infection. But in these cases, reflex, physical and psychogenic components usually contribute to the severity and frequency of attacks. At times these contributory components play major roles. Attacks of asthma associated with bronchial obstruction or acute left ventricular failure may be indistinguishable from those due to milk or feathers.

Proper management of the chronic asthmatic requires a search for multiple causes of wheezing in every case. This search calls for the skilled use of history and physical examination in all, and X-rays and skin tests in most cases. In others the search will require bronchograms, bronchoscopy, biopsies, cultures and antibacterial sensitivity tests, and studies of heart and lung functions.

Miscellaneous

Don't Omit Asthma from the Differential Diagnosis in any case of cough or dyspnea, especially if nocturnal, recurrent, and with symptom-free intervals.

Don't Discard Asthma As a Diagnosis because there are no asthmatic squeaks during symptom-free intervals. When absent during the usual maneuvers of the chest examination, they can be elicited frequently by auscultation during forced expiration.

Don't Advise Parents to "Let the Child Outgrow His Asthma." Many do, most of them don't. This vicious cliché has been responsible for the unnecessary crippling of thousands of young adults by chronic lung failure, a common aftermath of untreated childhood asthma.

Don't Have House Pets, Cut Flowers, Rugs, Unnecessary Upholstery, Pillows, Curtains or Other Dust-Collecting Materials; and *Don't Use Insecticides, Scented Powders, Perfumes, Paint, Floor Wax, or Other Irritating Odors Around Asthmatics.*

Don't Smoke Around Asthmatics, Especially Children.

Don't Pile Pillows Around an Asthmatic During an Attack. Many asthmatics are aggravated by feathers. Support his orthopneic position with a chair or other non-allergenic objects under the mattress.

Don't Sweep. Use the vacuum cleaner, when the asthmatic is not around.

Don't Depend on the Clinical Examination for the Exclusion of Sinus Infection, particularly in children. X-ray examination is essential for the diagnosis, recognition, and cure of sinus infection.

Don't Allow the Asthmatic to Become Dehydrated. The hard work of breathing causes excessive loss of fluid from his lungs and skin. Inspissation of sputum, hemoconcentration, electrolyte imbalance, and their sequelae, may result.

Don't Be Satisfied with Good But Incomplete Relief from Symptomatic Remedies. They do not postpone nor prevent the development of chronic asthma and its complications of chronic sinusitis, fibrosis, emphysema, chronic bronchitis, and ultimate chronic lung failure. Symptomatic remedies should supplement but should not replace specific therapy.

Don't Allow an Asthmatic To Get Sick Enough To Threaten Life Without Putting Him Where He Can Be Bronchoscoped, if necessary. Aspiration of inspissated sputum is a life-saving procedure occasionally, less often since the advent of ACTH and cortisone. The indications for bronchial aspiration are simple. First, a severe attack of asthma resistant to conventional remedies. Second, one or more areas of the lungs which have markedly diminished breath sounds persisting for several hours.

Don't Forget That the Frequency and Severity of Attacks Is Influenced by Emotional Tension in Many Asthmatics. Psychogenic factors are of major importance in a significant percentage of cases.

Don't Procrastinate. A detailed search for the causes of wheezing should be started with or soon after the first mild attack. Failure to do so results in much unnecessary suffering, chronic respiratory crippling and eventual death. Proper management, if begun before there are complications and continued as long as there is any asthma, will maintain the average asthmatic in good health indefinitely.

CONCLUSIONS

Medical schools do not prepare their graduates to treat allergic diseases with the same facility with which they care for other disorders of the cardio-respiratory, genito-urinary, gastro-intestinal, neuro-muscular and muco-cutaneous systems. Recognition of and correction of this glaring curriculum deficiency has been and still is painfully slow. This is particularly true of asthma, one of the most common causes of chronic organic illness.

An extensive experience at the University of Virginia has disclosed many errors in the management of asthma. An analysis of and recommendations for the correction of some of the more common errors has led to the compilation of the fifty-odd "DON'TS" which are the subject of this twentieth anniversary report of the Allergy Clinic of the University of Virginia Medical School.

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Film Cleared for TV.

Three films produced by the Metropolitan Life Insurance Company recently were cleared for use on educational and public service television programs. "Once Upon a Time"—a 10-minute animated cartoon dealing with state and highway safety; "Proof of the Pudding"—a 10-minute dramatic presentation showing the essentials of good nutrition and the relation between diet and health; "Be Your Age"—an 11½-minute drama depicting middle-aged, over-weight "John's" recovery from a heart attack and his subsequent adjustment to living with a handicapped heart. The films are available to county medical societies who desire to co-sponsor these films on television. They may be secured from Metroplitan Life Insurance Company, 1 Madison Avenue, New York 10, N.Y.

TREATMENT OF GROIN HERNIAS*

Carrington Williams, Jr., M.D.,
Richmond, Virginia

The previous paper on the treatment of burns fits in well with this paper on hernias, since by treating these two conditions the embryo surgeon can learn the fundamentals of surgery. Management of infection and electrolyte disturbances is well exemplified by treating burns, and application of the fundamental principles of surgical technique and surgical anatomy are embodied in the operative treatment of inguinal hernia.

It is often observed that a student can be taught to be a good surgeon if he learns to operate properly on hernias. Too frequently, however, in the course of a surgical residency, herniorrhaphies are turned over to the younger men who are not closely supervised in proper operative correction of the defect. This practice sometimes results in poor training of the residents and unsatisfactory results from operation. Hernia is one of the commonest remediable conditions encountered in surgical practice, and the industrial aspects of this condition are obvious. State industrial commissions recognize the obligations of employer toward employee regarding hernia, and correction of this condition is fully compensable.

From the historical viewpoint, attempts to cure or control hernias have been made for centuries. Reduction by taxis, treatment of bubonocele, etc., are described in ancient writing. The efficacy of trusses is attested by numerous advertisements in periodicals and newspapers, but surgery has far more promise of cure of the defect and relief of the symptoms. The vogue for injection treatment of hernias seems to have passed almost completely, although it is noteworthy that Watson's textbook on "Hernia," published less than fifteen years ago, contained over seventy pages on the technique of treating groin hernias by injecting sclerosing solutions.

The old saying, "There is nothing new under the sun" probably applies to this discussion and yet reiteration of the principles of hernia surgery serves to keep standard opinions and modern advances in mind.

Treatment of groin hernias by operative repair affords the polished surgeon as well as the student the opportunity to exercise many cardinal principles of surgical technique. Galen said, "No great and perfect work is ever accomplished at a single effort, or receives its final polish from one instrument." Application of thorough knowledge of anatomy, gentle surgical technique, and restoration of the normal abdominal support are combined to accomplish a satisfactory result. In no operation in general surgery is relief of symptoms more gratifying than in a properly executed herniorrhaphy.

The most important factor in the success of hernia repair is to utilize the proper operation for the various types of groin hernias. Because of the complicated regional anatomy, it is just as important not to transpose muscle planes for simple hernias as it is to provide adequate support for complicated defects.

Three types of groin hernias are ordinarily seen—indirect, direct, and femoral. Medical students find differentiation difficult, but on anatomical grounds these are separate distinct types. Indirect hernias are found when the *processus vaginalis* fails to fuse, and classically there is a rather long sac accompanying the spermatic cord in the inguinal canal. This type is usually not complicated by serious muscular defects. In this connection it is of interest that the etiology of hernias is not completely understood. Watson states that "the principal cause of hernia is undoubtedly the existence of a congenital sac." On the other hand, direct hernias are characterized by a weakness in the abdominal wall through which abdominal contents tend to protrude. This type is the true "rupture" and is most often due to weakening of the muscles from strain or advancing years. Femoral hernia also is due to a weakness of the muscular wall but the sac descends along the femoral vessels and presents in the thigh. Differentiation of groin hernias by palpation is difficult, and careful attention should be paid to physical examination, using the index finger to invaginate the scrotal skin and feel the hernia through the external inguinal ring. Indirect (or oblique) hernias accompany the spermatic cord and often descend into the scrotum, while direct hernias ordinarily present through a large external ring and are felt through a weakness superior and lateral to the pubic tubercle.

*Read before the annual meeting of The Medical Society of Virginia at Richmond, September 28-October 1, 1952.

At operation it is our feeling that the indirect variety is best handled in as simple a way as possible, by high ligation and removal of the sac and by a minimum of muscle transposition. In children, complete excision of the sac with high ligation is all that is needed for cure, and since no muscular defect is present, there is no need for reconstruction of the floor of the canal. In adults with uncomplicated indirect hernias, the important step is complete removal of the sac, and when the floor of the inguinal canal needs buttressing the internal ring should be snugged around the cord and a Ferguson or Bassini type of muscle reconstruction performed.

Cure of direct hernia involves a more extensive operation. Since, in this condition, there is in reality a rupture of the muscular support, accurate anatomical restoration of the muscular floor must be achieved. It has been clearly shown by Anson in anatomical studies that the transversalis fascia inserts into Cooper's ligament, rather than into Poupart's ligament as was usually assumed. Therefore, any attempt at reconstruction should reinforce this tissue plane by the McVay technique of Cooper's ligament repair. Inasmuch as femoral hernias also involve a weak wall, it is our feeling that this operation is the procedure of choice for all direct and femoral hernias. The reason for this is that reconstruction of the inguinal canal by suturing the muscles to Poupart's ligament leaves a potential weakness through which herniation can develop between Poupart's ligament and the superior pubic ramus. This weakness is eliminated by the Cooper's ligament type of repair. The inguinal approach to femoral hernias rather than the subinguinal route allows better exposure of the neck of the femoral hernia sac and enables one to carry out the Cooper's ligament repair. In using this operation, it is essential to expose the superior ramus of the pubis from the pubic tubercle laterally to the femoral vessels by separating the fibers of the transversalis fascia. Cooper's ligament is then visualized as a tough fibrous structure adherent to the bone. Conjoined tendon and transversalis fascia are then securely sutured to Cooper's ligament from the femoral vessels to the pubic tubercle. In this way a thoroughly strong, satisfactory floor of the inguinal region is restored and any weakness in Hesselbach's triangle is effectively overcome.

There are several other points regarding technique worth mentioning. We prefer a transverse incision low in the right lower quadrant rather than the usual oblique herniorrhaphy incision. The incision is placed in a natural skin crease and produces a good cosmetic result. In babies this incision is particularly nice. The skin can be closed in infants and children with a continuous subcuticular suture of fine plain catgut. This is then covered with collodion and the patient may be discharged at the earliest convenience. A watertight closure is thus provided and there are no skin sutures to be removed.

We employ cotton sutures throughout except for catgut in ligation of the peritoneal sac and except when the skin is closed with subcuticular catgut. Strong, pliable wounds are obtained by cotton technique.

Early ambulation of herniorrhaphy patients has been our practice. We feel that this encourages prompt restoration of normal bowel and bladder function, helps to eliminate postoperative gas pains, and prevents a patient from becoming unnecessarily weak. It is important in getting a patient up on the day of operation or on the following day to apply an abdominal binder for support and to raise the back-rest of the bed to a full sitting position before assisting the patient to stand on the floor. In this way there is minimum strain on the muscles and minimum discomfort.

Repair of bilateral inguinal hernias may be carried out at one operation provided there are no complications. It is our policy to do both sides at one time in the case of indirect hernias, but usually to wait five to seven days between operations for direct or femoral hernias.

Anesthesia is ordinarily not a difficult problem. Intravenous pentothal—curare supplemented with nitrous oxide—oxygen gives very satisfactory results. In poor risk patients, local infiltration of novocain may be used and in certain cases spinal is preferred. With any type of anesthesia it is, of course, essential to have adequate relaxation and minimum tension during the course of the muscle repair.

Results of the treatment of groin hernias in this way have been gratifying. Recurrences will always occur and more particularly in large direct and femoral hernias where the muscular support is poor. However, we have not seen any recurrences among

our patients operated on by the Cooper's ligament technique during the past three years. These patients all have had femoral or direct hernias, some in debilitated individuals with large muscle defects. With a relatively short period of follow-up, it would be foolish to claim a very high cure-rate, and yet the outlook for successful results appears good at this time.

Complicated hernias are seen occasionally, and these require special techniques. The most baffling type seems to be the sliding indirect hernia. Cure of this type necessitates complete removal of the sac without damage to that portion of bowel which forms the posterior wall. Employment of the abdominal approach and reconstruction of the defect in the mesocolon enable one to accomplish this, and then repair of the canal proceeds as in the ordinary types.

Incarcerated hernias are sometimes reducible by gentle taxis. Reduction *en masse* is to be feared in this type of hernia, and as a rule emergency operation is preferred whenever the hernia cannot be reduced after a few minutes of gentle effort by the physician. General anesthetics may ordinarily be employed in incarcerated hernias, but in long-standing cases it may be necessary because of the patient's poor condition to use local anesthesia. If strangulated viscera are found in an incarcerated hernia, they must be resected or treated immediately and the hernia repaired concomitantly. It is wise to do the simplest form of repair in the case of incarcerated or strangulated hernias, particularly in the older age group.

Summary

Surgical repair of groin hernias is an exercise in technique which is excellent for training and for review of fundamental principles.

Indirect hernias require complete removal of sac and "standard" type of repair.

Direct hernias should be repaired by Cooper's ligament technique. This is also used for femoral hernias.

Employment of the proper operation for the various types of hernia is essential for successful results.

805 West Franklin Street.

Describes New Type of Surgical Needle.

A new type of surgical needle, for use in suturing incisions of the mitral valve of the heart, was described in the January 10 J.A.M.A. by Dr. Gerald H. Pratt, New York.

A ski-shaped type of needle, the new addition to the physician's armamentarium, was made with the base of the ski as a long square, instead of a flat surface, as is the case in most surgical needles. This change, Dr. Pratt stated, permits the needle to be held securely at any angle and makes suturing of the heart valve less hazardous.

"The use of such a needle for other deep suturing is also feasible," he added. "Other parts of the heart, the deep lying vessels in the chest or abdomen, the bronchi, the pelvic bowel and the bladder at times all present suture problems in which such a needle proves valuable."

Dr. Pratt is associated with the vascular clinic of St. Vincent's Hospital and the New York University College of Medicine.

BENIGN GYNECOLOGIC BLEEDING

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Abnormal vaginal bleeding is probably one of the most frequent conditions which the general practitioner as well as the gynecologist meets in his practice. It is certainly one of the commonest reasons for pelvic examination. The causes may be functional, or they may be various neoplastic diseases. It may also be associated with inflammatory conditions, certain constitutional diseases, retained gestational products, intra-abdominal hemorrhage or uterine bleeding due to various causes.

During the past five years (1947-1951) there were 5955 cases of gynecologic discharge at the New York Polyclinic Hospital. Of these hemorrhage was a predominant symptom in 2354 cases, among which were 752 cases of fibroids, 79 cases of adenomyosis, and 57 cases of tubal pregnancy. The accompanying table indicates in further detail all cases in which hemorrhage was an important symptom. Hemorrhage also occurred as a secondary post-operative complication in 9 cases, including both laparotomies and vaginal plastic repairs, in which proper ligation and hemostasis were not obtained. The commonest pathological finding associated with abnormal vaginal bleeding was leiomyoma of the uterus. Cervical and fundal polyps were the next most common, followed by endometrial hyperplasia and adenomyosis. Pelvic inflammatory disease was established by pathological examination in 16 cases, and ruptured corpus luteum in 7 cases.

It is essential that every patient presenting a history of abnormal vaginal bleeding should be correctly diagnosed, especially with regard to differentiation between benign and malignant disease. For this reason each case should be thoroughly examined. The plan of investigation should be well organized, and fully adequate in all studies requisite to diagnosis of the individual case. A very accurate history of the bleeding should be taken, particularly emphasizing the duration of bleeding and the amount of blood lost. The patient's estimate of blood loss especially will often not fit in with clinical findings or laboratory data, but when it does agree this evidence is a valuable aid in diagnosis.

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FUNCTIONAL BLEEDING

Abnormal uterine bleeding may be regarded as functional when no general or local lesions can be found. It may occur during adolescence, during the reproductive period, at the menopause, or later, but age should be considered in the diagnosis since other factors are more likely to occur in some age groups than in others. Excessive flowing in the adolescent girl and young married woman, for instance, is usually due to a functional disturbance. In a married woman during her reproductive period excessive flowing may be of functional origin, but it is more commonly due to such other causes as complications of pregnancy, infections and benign tumors. In the premenopausal woman functional excesses of flowing are common, but malignancy of the cervix and body of the uterus must be ruled out. Post-menopausal bleeding is due to malignancy in

TABLE I
CAUSES OF BLEEDING

Fibromyomata uteri	752
Incomplete abortion	681
Cervical polyps	219
Hyperplasia of endometrium	198
Threatened abortion	99
Adenomyosis	79
Endocervicitis	65
Ectopic Pregnancy	57
Endocrinopathies, including functional uterine bleeding	43
Endometrial polyps	43
Ovarian cysts	33
Endometriosis	17
Infections	16
Fibrosis of uterus	13
Spontaneous complete abortion	10
Corpus luteum cyst	7
Hydatidiform mole	6
Bleeding following panhysterectomy	5
Missed abortion	3
Bleeding following pelvic floor repair	2
Bleeding following anterior colporrhaphy	1
Bleeding following amputation of cervix	1
Laceration of vagina	1
Papilloma of vagina	1
Granuloma of vagina (non-specific)	1
Hypertension	1
Total	2354

about 50% of cases, but it may also be due to overtreatment of menopausal symptoms with estrogens. A diagnostic curettage is not necessary for the adolescent girl or the young unmarried woman, but in a woman 35 years of age or older it should be done to rule out possible malignant disease. Functional bleeding in women of the child-bearing age should always have a diagnostic endometrial biopsy.

According to Allen[1] the term functional bleeding can be applied to virtually all disturbances of ovarian function in which abnormal uterine bleeding occurs regardless of the microscopic appearance of the endometrium. The histologic appearance of the endometrium is believed to indicate the type of hormonal influence to which it has been subjected only so long as the ovaries are functioning normally. That is, a progestational endometrium indicates that the ovaries are producing progesterone, and a well-developed mid-interval endometrium indicates that they are producing estrogen. However, when abnormal function occurs the normal sequence of estrogen and progesterone production in normal amounts is disturbed and the endometrium becomes bizarre.

Estrogens have been shown to act in relation to bleeding in two ways. That is, too much of the hormone used over too long a period of time may cause bleeding, or abrupt withdrawal may also cause bleeding. This has been established by investigations which show that estrogens when given to ovarectomized or menopausal women for a period of three or four weeks produces a growth of the endometrium. But if the same dose is continued for another three or four weeks bleeding is liable to occur despite continuation of the estrogen. Beginning about five to eight days after estrogen has been discontinued, bleeding may also occur, due to hormonal deficiency. Hence the term withdrawal bleeding.

The most commonly used hormones in the treatment of functional vaginal bleeding are estrogen and progesterone. The latter is usually used according to a withdrawal plan. It has, however, been found that testosterone does not control bleeding any more rapidly than estrogen. Moreover, testosterone is not only more expensive, but the large doses required to stop bleeding may lead to prolonged occurrence of such unpleasant symptoms as acne, hirsutism, gain in weight, hypertrophy of the clitoris, and voice changes. Because of these dangers and because the same beneficial results can be obtained by the use of larger doses of estrogen, the author prefers estrogen to progesterone therapy. In the relatively small number of ovulatory rather than anovulatory functional bleeding cases the causes are unknown and apparently vary both in the individual at different times, and between different individuals.

Functional bleeding in adolescent girls is nearly always due to anovulatory behavior of the ovaries. The decision of when to treat and when not to treat an adolescent girl for abnormal bleeding is not too difficult, for we all know that infrequent periods require no treatment beyond reassurance. Even those patients who have an anovulatory period every two weeks need no therapy unless the bleeding is profuse and several short cycles have occurred, since many patients will have a few short cycles and then will spontaneously revert either to infrequent cycles or regular cycles. These irregularities are usually associated with disturbances in pituitary and ovarian function, and characterized by failure of ovulation—resulting in sterility and bleeding from interval or estrogen prepared endometrium. We have been following the plan suggested by Hamblen[2] in the treatment of these cases. Daily doses of premarin ranging from 3.75 to 7.5 mg. are prescribed. The underlying disturbance may be corrected by cyclic estrogen-progestin therapy continued after hemostasis has been effected. Whatever dosage of premarin was required for hemostasis, the same dosage should be continued for twenty days after hemostasis. During the last ten days of this treatment, pranone is also given by mouth. If the daily dose of premarin was 7.5 mg., the daily dose of pranone will be 60 mg. As a rule when the first cycle of estrogen-progestin therapy is concluded there will be an onset of bleeding within a few days. On the third to fifth day of this episode of bleeding another cycle of estrogen-progestin therapy is begun, and is given similarly save for the fact that a lower dosage schedule is used, that is, a daily dose of 3.75 mg. of premarin and a daily dosage of 30 mg. of pranone. In all, two or three similar cycles of treatment are advisable. This form of therapy regulates bleeding quite promptly, and is followed in the majority of patients by a resumption of normal ovarian and pituitary functions which are evidenced by normal ovulatory cycles com-

patible with fertility. Such therapy saves many young women from repeated curettages, radium, Roentgen therapy or even hysterectomy.

In cases of ovarian deficiency in young women, the pituitary-gonadal relationship is apparently upset by emotional stress, general poor health, hypothyroidism and perhaps other factors. General supportive measures such as the proper vitamins, iron and thyroid should be used, and are an important adjunct to hormonal treatment during the acute phase. Metabolic studies should also be made, since it will obviously be impossible to cure ovarian dysfunction in a patient in whom the cause is thyroid deficiency unless this deficiency is treated.

In women 35 years of age or older, when endocrine therapy fails, a satisfactory treatment is the intrauterine application of radium. A dose of 1800 to 2500 milligram hours will usually stop the bleeding. We recommend this treatment rather than irradiation with Roentgen rays. If endocrine therapy is not satisfactory in the treatment of women of the child-bearing age, however, a curettage and intrauterine application of radium from 300 to 500 milligram hours is indicated. A higher dosage is contraindicated since it has been found that 600 milligram hours comes within the danger zone of sterilization.

Neoplastic Diseases

As will be seen from the accompanying table, the commonest of the benign neoplasms causing bleeding were the myomas. However, it is essential to realize that myomas do not themselves cause bleeding unless they are submucous, and do not bleed after the menopause. We must therefore look for polyps or other causes for the bleeding in myomas; failure to do so has caused many deaths. As Karnaky[3] has pointed out, excessive bleeding in a myomatous uterus may be effectively treated as dysfunctional bleeding in a fibroid uterus. It must be emphasized that unless the myoma encroaches upon or invades the endometrium it will not cause bleeding.

For women in the late thirties or early forties irradiation should not be employed since a sterilizing dose is necessary if the myoma is to be cured. An inadequate, non-sterilizing dose will temporarily relieve the bleeding but the myoma usually continues developing. For women in the late fifties, however, radium is very successful in controlling bleeding due to small intermural growths. A sterilizing dose must, of course, be given in order to destroy the ovaries. We have found radium preferable to

Table II

Causes of Bleeding During Pregnancy

Abortions		793 cases
Threatened	99 cases	
Spontaneous (complete)	10 "	
Missed	3 "	
Incomplete	681 "	
Ectopic Pregnancy		57 "
Total		850 "

Table III

Causes of Bleeding and Management of Cases in 1149 Cases with Benign Pelvic Neoplasms

Cause	Number of Cases
Fibromyomata uteri	752
Hysterectomy	734
Myomectomy	17
Radium	1
Cervical and endometrial cysts	262
Dilatation and curettage	260
Biopsy and polypectomy	2
Ovarian neoplasms and cysts	33
Laparotomy	33
Conservative surgery	22
Endometriosis and adenomyosis	96
Laparotomy	96
Hydatidiform mole	6
Dilatation and curettage	5
Hysterectomy	1
Total	1149

Roentgen ray therapy for these cases. Surgery is, however, indicated as a general rule for bleeding myomatous uteri. During the child-bearing years myomectomy should be considered, but if the myoma has too extensively invaded the uterine musculature extensive hysterectomy is necessary, conserving the ovaries in young women.

Cervical and fundal polyps consist usually of a polypoid type of endometrial hyperplasia. These bleed easily, and "spotting"—the term ordinarily used by the patient—is usually noted after coitus, douches, exercise, or it may appear as menorrhagia at the time of her period. The author has not found radium entirely satisfactory in treating polyps, but finds them best handled by curettage or surgery.

Adenomyosis is due to the invasion of the musculature of the uterus by endometrial glands. The uterus thus hypertrophies, enlarging symmetrically. Ab-

normal bleeding is the most important symptom, and usually appears as profuse menorrhagia without intermenstrual flow. Failure of radiation therapy to cure the bleeding is diagnostic. Surgery is indicated.

In general, benign ovarian neoplasms are not among the common causes of bleeding, but the following should be looked for. Cystic degeneration of the ovaries may lead to either prolonged menstruation or to spotting due to imperfect formation of the corpus luteum, especially if there is a corpus luteum cyst. Simple follicular cysts, however, do not as a rule cause menstrual disturbance. Granulosa cell tumor, on the other hand, is frequently associated with bleeding, and should be suspected in cases of post-menopausal bleeding with slightly enlarged uterus and hyperplasia of the endometrium revealed by biopsy. Only about 12 per cent of patients with dermoids have menstrual disorders, which also holds true of those with pseudomucinous cystadenomas. Ninety-six patients with endometriosis or adenomyosis had excessive or abnormal bleeding. In those cases that complained of pain with bleeding, laparotomy was done.

One of the commonest causes of excessive and prolonged bleeding is the retention of products of gestation following labor or abortion. This should be kept in mind in cases revealing delay in the previous menstrual period. Our group included 684 such cases. The private cases were treated conservatively, but on the general service uterine curettage was performed in 75%. In ectopic gestation, spotting and metorrhagia is almost always associated with other characteristic symptoms so that diagnosis presents no serious difficulties.

Infections

Bleeding due to infections such as salpingoophoritis or cervicitis usually subsides with the control of the infection. Antibiotics and chemotherapeutic agents have eliminated many of the complications which attended these conditions in former days, but cases of cervicitis should nonetheless be biopsied because early carcinoma is not clinically distinguishable from benign cervicitis. If no malignancy is found, treatment is best carried out by means of actual cautery and douches.

Intra-Abdominal Hemorrhage

Ectopic pregnancy is the commonest cause of intra-abdominal hemorrhage of genital origin. Bleeding may vary from slight to profuse. Intra-abdominal hemorrhage may also be due to rupture of the pedicle of a pedunculated myoma, or from rupture of a corpus luteum cyst, as reported by Sackett[4] and Morton[5]. Hemoperitoneum from this cause is not uncommon, though it is most commonly misdiagnosed as acute appendicitis, ruptured extra-uterine pregnancy or salpingitis. Morton, in 1931, for instance, collected 26 cases of ruptured corpus luteum and found that in all of them the condition had been misdiagnosed. Follicle rupture, or Mittelschmertz, is usually recognized, while corpus luteum rupture is seldom considered even as a possibility. This larger error in diagnosis is probably due to the lack of appreciation of the clinical entity of the condition.

Rupture of the corpus luteum may occur at any time during the child-bearing period from the onset of puberty to the menopause, but is commonest in the young adult. While rupture of the Graafian follicle occurs characteristically during the mid-interval period, that of the corpus luteum occurs during the second half of the interval from the 18th to the 24th day of the cycle. Pain is a constant symptom and varies in intensity depending on the amount of hemorrhage, but is usually sudden in onset and confined to the lower part of the abdomen. Nausea may be present, but rarely vomiting. Such sudden onset of abdominal pain during the second half of the menstrual cycle in a woman whose periods have been regular is suggestive of ruptured corpus luteum. Soft, flat, non-rigid but tender abdomen with a definite rebound tenderness strongly suggests free blood in the abdominal cavity. Bleeding is seldom extensive enough to cause shock.

An acutely inflamed appendix, co-existing with a ruptured corpus luteum has been reported by O'Gorman[6] and by Hoyt and Meigs[7]. Such coincidence can, of course, happen. Surgery is employed for ruptured corpus luteum cysts, conserving the ovary if possible. In case of ovarian cysts the cyst lining is removed and the ovary sutured.

Miscellaneous Causes

Among the miscellaneous causes of benign gynecologic bleeding may be mentioned senile vaginitis. Hypertension producing arteriosclerosis of the uterine vessels may also cause bleeding. Diseases of the thyroid may also be responsible for the condition.

Constitutional diseases are, however, rarly causative of vaginal bleeding, although pneumonia, influenza, chronic valvular disease, diabetes, hemophilia, scurvy and syphilis have some tendency to produce menorrhagia. In all these conditions the treatment is to remove the cause rather than to treat the secondary symptom.

TRAUMA

Injury of the external genitalia is a frequent cause of hemorrhage, especially if the venous plexus of the labia are lacerated. Occasionally a troublesome hemorrhage may follow a plastic operation on the cervix, vagina or pelvic floor. The author has seen three cases of such severe hemorrhage that suturing and transfusion were required on the tenth day after amputation of the cervix.

SUMMARY

1. An analysis has been made of patients with benign gynecologic bleeding in the New York Polyclinic Hospital during the years 1947-1951.
2. Early complete and correct diagnosis is important, and every patient with abnormal vaginal bleeding should be examined thoroughly.
3. Biopsy should be done on any questionable cervical or vulvar lesion.
4. Endocrine therapy may be used in treating patients with benign vaginal bleeding. Estrogen-progesterone treatment has been found effective.
5. Endometrial curettage is a diagnostic necessity in many cases, and should be used therapeutically before attempting further treatment of irregular bleeding.
6. Physicians as well as women should be alerted to the danger of irregular bleeding at the menopause. The possibility of malignancy should be kept in mind until ruled out.

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116 East 68th Street.

Fourth Supplement to Motion Picture Reviews Now Available.

The Committee on Medical Motion Pictures of the A.M.A. has completed the fourth supplement to the booklet entitled "Reviews of Medical Motion Pictures." It contains all the film reviews published in The Journal, from January to December 1952.

The purpose of the reviews is to provide a brief description and evaluation of motion pictures which are available to the medical profession. Each film is reviewed by competent authorities.

One copy has been mailed to the secretary of each state medical society. Copies are available to county medical societies on request from: Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.

CERTAIN REPARATIVE SURGICAL PROCEDURES OF THE UPPER RESPIRATORY TRACT*

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The otolaryngologist is being constantly consulted by patients whose complaints, among many others, are related to the respiratory passages. Many of these complaints are due to obstruction to the upper air passages by acute inflammatory and allergic conditions, neoplasms, functional disorders, or to structural changes due to congenital abnormalities, accidental trauma, surgical trauma, and cicatricial changes secondary to disease or corrosives. It is in the group of structural changes that we are interested at this time. We wish to bring briefly to your attention some common but more often uncommon disorders obstructing the nasal, pharyngeal, and laryngeal air passages, that we have encountered.

By far the larger number of cases are those of trauma to the nose, resulting in external and intranasal deformities. A badly injured nose which has had unsuccessful primary care can be unsightly and result in much discomfort to the owner when the airway is obstructed because of the disorganized bony, cartilaginous, and soft tissue components. Figure 1a shows an example of such a case with external nasal deformity, scarring of the soft tissues of the right vestibule, and almost total obstruction to the left side intranasally because of displaced septal cartilage and bone. This was not a neglected case; as good a primary result as possible, under the existing conditions, was obtained. To correct the deformity will require skin grafting and the removal and replacement of various cartilages and bones of the nose, and is no simple problem. The correction of the deformity as illustrated in Fig. 1b is less difficult.

A patient who has experienced adequate intranasal air space will suffer considerable discomfort when deprived of this rather suddenly by trauma. Satisfactory correction can be obtained only by the more definitive rhinoplastic surgical procedures. The common "classical submucous resection" has not sufficed and will not suffice in these particular cases. In some incidences, septal reconstruction without alteration in the appearance of the nose is possible, but in many cases is not practical nor justifiable. With the increase in nasal injuries and in laity consciousness of so-called "plastic surgery," the necessity for various rhinoplastic procedures, rather than simple septal resections, becomes apparent. Though irrelevant to this paper possibly, we cannot help but make the observation that nasal bone fractures are



Fig. 1 a and b.—Two nasal deformities resulting from trauma which will require corrective rhinoplastic surgical procedures.

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*Read before the annual meeting of the Medical Society of Virginia, at Richmond, September 28-October 1, 1952.

probably given less consideration by the medical practitioner than any other fracture.

Congenital atresia of the posterior choanae is not common. The obstruction may be unilateral or bilateral, membranous or bony. Figure 2 shows a diagram of a unilateral atresia, as visualized from the nasopharynx. Bilateral atresia in the infant is



Fig. 2.—Diagram of right posterior choanal atresia.

an emergency problem. Failure in recognition and relief may result in asphyxia neonatorum, and, if not this, then malnutrition because of inability to feed properly. Unilateral obstruction in the older child or adult is disturbing and embarrassing because of the constant presence of secretion in the vestibule and anterior nares, of which the patient can rid himself only by postural changes or by some mechanical means. Peculiarly enough, the inability to breathe through one side of the nose does not cause as much discomfort as one would imagine. To establish an initial opening in the obstruction is no problem, but to maintain its patency is a most difficult one. Here, as in many cases, the vexing problem of circumventing the scar tissue changes is encountered.

Several different types of operations, varying as to the surgical approach, have been proposed and advocated by various rhinological surgeons. The intranasal approach, with perforation of the obstruction and insertion of a cannulated obturator of some type, is used most often as a temporary measure in infants, to be followed later, as necessary, by a procedure designed to give improved results. In these later operations, the intranasal, transantral, or transpalatine approach is utilized to remove the obstruction plus bone of the septum and the palate. Care is taken in the handling and replacement of the soft tissues to minimize future scarring. The transpalatine approach offers the advantage of attacking the problem with more available space and under direct vision. Figure 3 illustrates a step in the transpalatine approach.

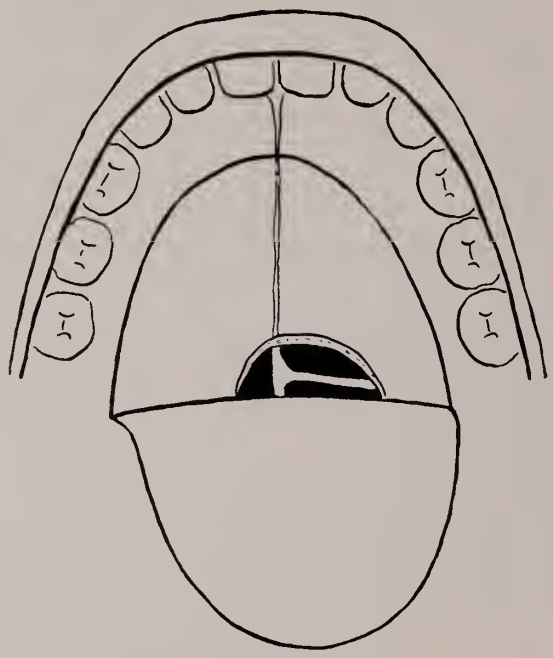


Fig. 3.—Diagram illustrating transpalatine approach in correction of choanal atresia.

Scarring and adhesions of the tissues of the soft palate, pharyngeal wall, and tongue, resulting to a degree in incomplete stenosis and respiratory hindrance, are rare. At the present time the cause is usually secondary to surgery, such as tonsillectomy and adenoidectomy. Caustic burns, syphilis, rhinoscleroma, and other conditions have been reported as other causes. The symptoms will obviously depend upon the degree of the stenosis and location. Successful correction of the condition apparently is most difficult. The scar tissue must be removed and the resulting lumen retained by means of dilatation, obturators, and skin or mucous membrane grafts. We have had experience in the treatment of only one case, a child of five years of age with an incomplete glossopharyngeal stenosis, secondary to tonsillectomy and adenoidectomy. Fortunately, the scarring was not dense and was corrected by, first, radial incisions, and, then, frequent dilatations under general anesthesia. A tracheostomy was performed prior to treatment. Figure 4 illustrates diagrammatically the sites of the obstructions.

Stenosis of the airway above the laryngeal level is rare, compared to that at the level of the larynx.

We have encountered this latter group of cases surprisingly often, even with the reduction in the incidence of diphtheria, syphilis, and tuberculosis. Violent trauma to the cervical region with subsequent scarring has been the source of our experience in several recent cases, and tuberculosis in another. As yet we have had no cases secondary to endotracheal or endoesophageal intubation procedures, which have become very popular in recent years and will un-

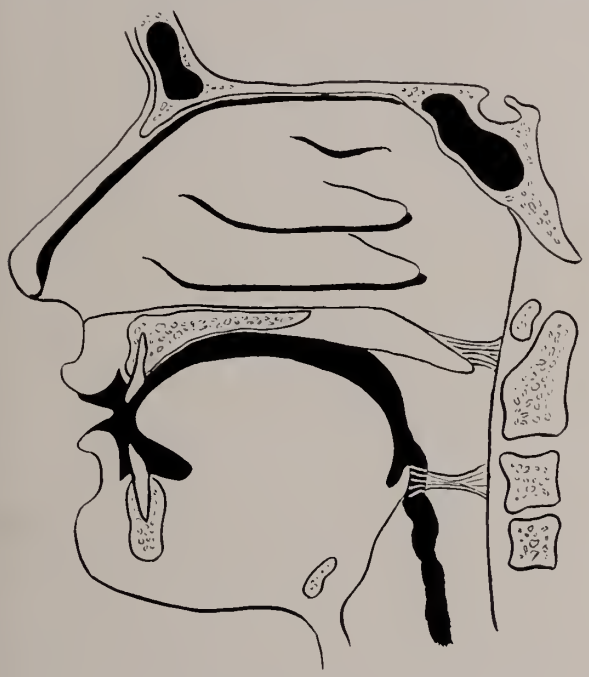


Fig. 4.—Diagram illustrating sites of pharyngopalatine and pharyngoglossal atresias.

doubtedly yield material of the type in which we are interested. Ten years ago, at one period, we had under our care, for rehabilitation, four children with laryngeal stenosis secondary to diphtheria, intubation, and, in one incidence, misplaced tracheostomy. All were decannulated and now have good airways and voices. Treatment consisted of repeated progressive dilatation of the intralaryngeal lumen. No small factor in the successful results is the increase in the relative size of the laryngeal structures with the growth and development of the child.

More recently our efforts have been directed to reconstruction of the badly disorganized laryngeal tissues secondary to trauma. In addition to airway, speech (voice) must be considered in the evaluation of the ultimate result. Again, the problem of ever recurring scar tissue is encountered. In repairing these conditions, indwelling tubes or molds of rubber or plastics, with and without grafts, are utilized. The grafts may be of skin or mucous membrane. When more space is necessary, bone and cartilage (hyoid bone and septal cartilage) have been used as a midline graft. Figure 5 illustrates this point.

Another cause of embarrassment in the size of the glottic space is bilateral abductor paralysis of the vocal cords. This usually is secondary to thyroid surgery for goiter or carcinoma. As the result of the

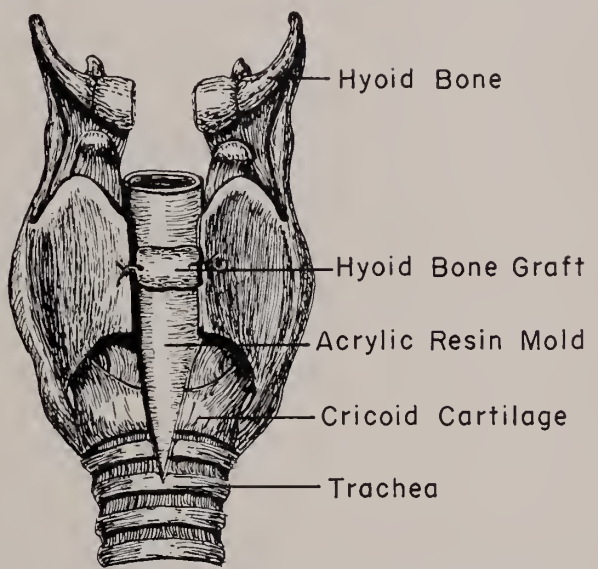


Fig. 5.—Diagram illustrating use of hyoid bone graft and acrytic mold in reconstructions of laryngeal airway.

injury to the recurrent laryngeal nerves, the paralysed vocal cords are immobilized in a position very near the midline of the larynx, obstructing the airway, but not interfering with the voice. A tracheostomy is generally necessary within a few hours following the thyroid surgery. Incidentally, the tracheostomy tube should not be removed until a competent otolaryngologist has given an opinion as to the motility of the vocal cords. If immobility persists in each cord, then obviously the patient is safer with the additional airway afforded by the tracheostomy.

For the correction of this condition, we have a precise and successful operative procedure. By submucosal dissection, one arytenoid cartilage is removed, usually by an external approach. Thus, the glottic space is increased with little, if any, sacrifice of voice. The patient may be safely decannulated, or, in the event that a tracheostomy has not been deemed necessary, can live a safer and more effortless existence. Note Fig. 6.

Finally, there are two other conditions met with

infrequently that cause respiratory effort in children. Our experience with these has been limited to one case of each type. Micrognathia or small lower jaw with inadequate tongue support will sometimes seriously interfere with respiration and feeding in infants. An operation (Douglas) has been devised to relieve the obstruction by bringing the tongue forward and fixing it to the alveolar ridge and lower lip, thus improving the airway and also encouraging the development of the jaw. The second condition is the rare congenital webbing of the larynx. Our case required only dividing a thin web between the anterior one-third of the vocal cords. Other cases may be very difficult problems.

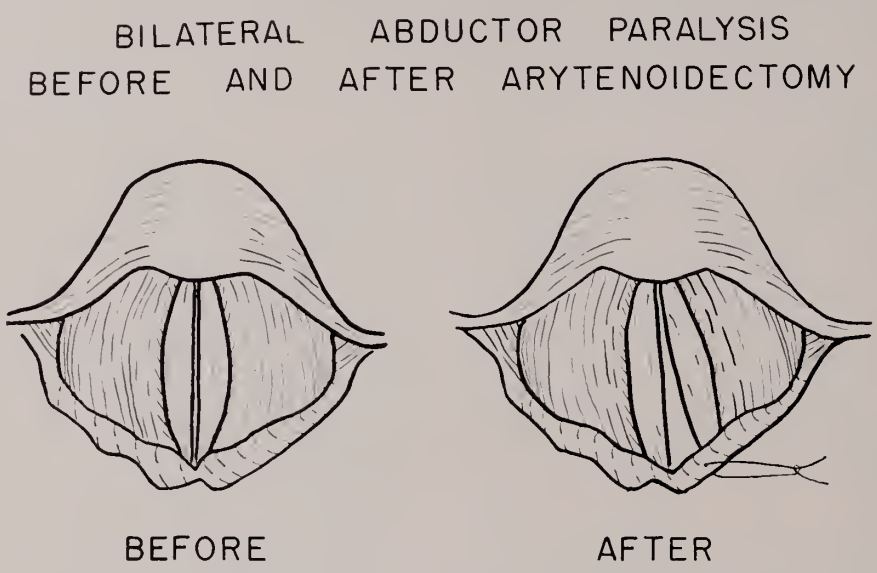


Fig. 6.—Diagram illustrating bilateral abductor paralysis before and after arytenoidectomy.

SUMMARY

Several conditions, usually structural in nature, of the larynx and upper respiratory tract, resulting in respiratory difficulty, are mentioned. It has been indicated that reparative surgical procedures are effectual in the correction of these conditions. In many incidences a beneficial solution of the problem is difficult, but an improved result may be expected in the majority of cases.

104 East Market Street.

A Manual for Arthritis Clinics,

Said to be the first of its kind, is just off the press from the Arthritis and Rheumatism Foundation, according to an announcement by the national medical director, Dr. Gideon K. deForest. The manual was published jointly with the National Institute of Arthritis and Metabolic Diseases, and is a 64-page book.

Priced at 50 cents, copies may be obtained by writing to any of the 32 Chapters of the Foundation or to national headquarters, 23 West 45th Street, New York 36, N. Y.

ASPIRIN POISONING*

Emily Gardner, M.D.,
Richmond, Virginia

This paper is written not so much with the expectation of presenting new material but with the hope of bringing to the attention of the practicing physician the seriousness of aspirin poisoning in children. Consideration is given to the toxicity due to over-dosage, taken either accidentally or therapeutically, and not to aspirin hypersensitivity. In a review of the more recent American literature[2-11] 77 cases of salicylate poisoning were found. Of these 46 were given the drug therapeutically and 31 took it accidentally. There were 11 deaths.

The following case came under my observation on March 3, 1951.

Case Report

L. C., white male infant, 18 mo. of age, weighing 25 lbs., was seen at 3:30 A.M. at home. He was breathing rapidly in a deep, pauseless manner. He looked pale and lethargic but could be roused and appeared conscious. The history obtained from the practical nurse was that 18 hours earlier, between 8-9 A.M. of the previous morning, he had eaten 15-20 aspirin tablets, each 1¼ gr. (20-25 gr.). He had seemed all right after this, had had a normal day, had taken his usual meals and had gone to bed in good condition. During the early morning when the nurse was taking care of another child, she noticed the child breathing strangely and had called the physician. The child was taken immediately to the hospital.

On admission the temperature was 103° F, pulse 150, respiration 60. The skin was warm and dry and, except for thick saliva in the pharynx, the physical examination was not revealing. Urine obtained was acid and showed acetone. The child was put immediately into an oxygen tent and 360 cc. of 1/6 molar sodium lactate solution with the addition of alidase was given by clysis. This was promptly absorbed. Orange juice with 100 mg. ascorbic acid added was given by mouth. Ten milligrams of vitamin K was given parenterally. Sponging for fever and elixir phenobarital drachms 2 for twitching were administered. At 10:30 A.M. the patient began to spit up coffee ground fluid and was comatose. A vein was cut down upon and an additional 200 cc. 1/6 molar sodium lactate were given I.V., followed by a transfusion. Despite all measures tried, including stimulants, the patient went continuously down hill and died at 12:55 P.M.—approximately 9 hours after admission. His temperature toward the end reached 105.8°F. His respirations continued in the deep, rapid, pauseless manner until near the end when they became more gasping.

Laboratory Reports:

B1. count: Hgb. 14 gm., R.B.C. 4,440,000, W.B.C. 26,400, P.M.N. 34, Lymph. 58, Mon. 8. B1. Chlorides: 580 mg./100. CO_2 combining power 30.5 vol. per cent (done on ½ cc. hemolyzed blood.) Blood salicylate level: 75 mg./100.pH 7.30 (venous blood) done 1 hr. before death. Prothrombin time 19 sec. (control 13 sec.).

Autopsy

(Head not done) Findings of significance were: Grossly; Petechial hemorrhages on the epicardial surface of the heart with moderate dilation of both ventricles; areas of hemorrhagic consolidation in both lungs; petechial hemorrhages in the submucosa of the stomach. Liver yellow in color and mottled in appearance.

Microscopicly: Diffuse congestion of sinusoids of liver; diffuse congestion of spleen with nuclear debris in germinal centers; focal erosion of stomach mucosa with superficial necrosis; lymph follicles of colon and appendix prominent with germinal centers showing nuclear debris and necrosis; some hemorrhage in periadrenal fat and focal lipoid depletion; some cloudy swelling of convoluted tubules of kidneys with congestion; prominent follicles with necrosis of lymph nodes; necrosis and calcification of periarterial connective tissue in heart; hemorrhagic areas in the lung.

In summarizing the literature at our disposal certain facts are evident.

Symptoms:

The time of appearance of the symptoms of in-

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*Read before the annual meeting of the Medical Society of Virginia, in Richmond, September 28-October 1, 1952.

toxication depends upon the method of ingestion—whether in supposedly therapeutic dosage or in accidental large amounts. After accidental ingestion of toxic amounts symptoms do not appear for 12-24 hours. When given in divided doses there is an accumulative effect and symptoms appear when toxic blood levels are reached, varying from 1 to 4 days. The symptom which is constantly found is hyperpnea. This at first is mild but becomes increasingly severe until the deep, pauseless breathing of the Kussmaul type is reached. This continues until the causative acidosis is corrected or until the patient dies of respiratory failure. Other symptoms frequently found are: vomiting which may contain coffee ground material, an acetone odor to the breath, irritability and restlessness, cyanosis or pallor, semiconsciousness or stupor, profuse sweating, dehydration, often fever of high degree, not infrequently convulsions and abdominal pain. Occasionally there is actual bleeding from the mucous membranes and a purpuric rash. Scanty urine, progressing to anuria, occurs as the intoxication increases. In older patients the subjective symptoms of tinnitus and dizziness and paresthesias may be complained of and signs of mental confusion and delirium may occur.

Laboratory Findings:

The laboratory findings vary with the degree of intoxication and the time of study. A constant finding is salicylate in the blood and the urine. The amount of salicylate in the blood which is required to produce symptoms of poisoning must vary with individuals. As small an amount as 29 mg. % has been reported producing intoxication, while one patient with a blood level of 68.4 mg. % recovered after heroic treatment. One patient who died had a level of 86 mg. % and the present reported case had 75 mg. %. There may be a reduction of blood sugar as low as 44.8 mg. The CO^2 combining power is always reduced in the acidotic stage. Cases as low as 14 vol. % are reported. A blood pH 7.1 has been recorded. The prothrombin time is frequently increased. The highest one was 2 min. 45 seconds. The longest bleeding time was 10 min. with clotting time 7½ min. A platelet count of 42,000 has been reported. The urine may be alkaline or acid depending upon the period of observation after intoxication begins. When acidosis has begun acetone and frequently diacetic acid are found.

Pathological Physiology:

To understand these symptoms and laboratory findings, a knowledge of the underlying disturbed physiology is necessary. In 1937, Dodd *et al.*[1] reported on the effects of salicylates on animals. They showed that the direct effect is an increase in metabolic rate with increase in the dissipation of heat, nausea and vomiting, irritation of the kidneys, and more or less mental disturbance. The vomiting, diuresis and sweating produce dehydration with a rise of temperature and decrease in urinary output. An acidosis develops secondary to the inadequacy of the circulation and the production and accumulation of ketone bodies, which are the result of the loss of food reserves of the body incident to the rapid metabolic rate. Dodd states that "no serious symptoms are produced by the administration of large amounts of salicylates to experimental subjects as long as the intake of fluid is adequate and there is no interference with the processes of the elimination of heat". It was Hartman and his associates[2] in 1942 and 1945 who most clearly outlined the process of salicylate action in excessive amounts in human subjects. The course of events can be divided into three stages, each having its definite characteristics and each requiring entirely different procedures to counteract.

The first stage is one of alkalosis. The salicyl radical acts directly on the respiratory center, producing an hyperpnea. There is a respiratory loss of CO_2, altering the ratio of carbonic acid to bicarbonate in the direction of alkalinity, thus producing a respiratory alkalosis. To compensate bicarbonate is excreted in the urine with a resulting alkaline urine.

The second stage is one of compensated acidosis. The salicylates act specifically on carbohydrate metabolism with resulting rapid depletion in the glycogen reserves of the body and the production of a metabolic acidosis with ketosis. The alkaline reserve is depleted by the excretion of bicarbonate in the first stage and the compensation is maintained by the continued hyperventilation and the depleted buffers in the blood. The urine is now acid.

The third stage is one of decompensated acidosis. The alkaline reserves of the body are depleted, the buffer system of the kidneys begins to fail, there is a decrease of the pH of the blood—acidemia, and finally circulatory and respiratory failure.

Another evidence of disturbed physiology is the lengthening of the prothrombin time by large doses of salicylates. Stevenson[3], in 1937, in a review of 13 reported autopsies of salicylate poisoning, found that one-half showed petechiae on the epicardium and almost one-third in the pleura and lungs. In experimental studies on six convalescent patients Fashena and Walker[4] showed a marked prolongation of prothrombin time with doses of sodium salicylate, 0.2 and 0.22 gm. per kilo of body weight, which occurred within the first 24 hours and reached its height on the second day. Thereafter there was a spontaneous drop in prothrobin time which, however. did not reach the pre-treatment level. They considered the hemorrhagic complications due to hypoprothrombinemia and other factors, such as vascular dilatation and vascular injury. In a recent paper by Dietrick *et al.*[5], one case was reported with a prothrombin time of 55 seconds and another of 25 seconds (control 17 seconds). Ashworth and McKenie[6] surmise that since the hypoprothrombinemia can be prevented by vitamin K, it is not due to liver damage.

The effect of salicylates in toxic doses on the liver has been demonstrated by Lutwak—Mann[7] to be a depletion of the hepatic glycogen.

Pathology:

Of the 11 deaths, 10 were autopsied. Only one case is duplicated in the review of Stevenson in 1937, that being his own case. Nine of the 10 cases showed the predominating finding of petechial and, occasionally, diffuse hemorrhage. The petechial hemorrhages were wide spread, involving the brain, the lungs, the pleura, the heart and the gastro-intestinal tract, and in some instances the adrenals, the thyroid, the spleen and the lymph nodes. The liver was described as showing parenchymatous degeneration, fatty infiltration, acute inflammatory changes, or hydropic degeneration with beginning necrosis. In some of the autopsies the kidneys were described as hyperemic, or showing fatty degeneration.

Treatment:

From this knowledge of the action of salicylates in the body, treatment depends upon the time the patient comes under observation.

In the case of accidental ingestion of toxic amounts of aspirin immediate gastric lavage with tap water is indicated and hydration forced. It has been shown that salicylates appear in the blood within 10 minutes after ingestion and in the urine in 10 to 20 minutes. The average time to reach maximum blood levels is about 1 hour after ingestion but variations occur up to 12 hours[8]. After hyperpnea occurs gavage is of no value.

During the first stage, the period of alkalosis, the patient should be given intravenous glucose solution in normal saline. The subcutaneous route can be used also. The purpose of this is to spare the glycogen reserves of the body and to combat alkalosis by supplying chlorides to unite with the base present. If the patient is not able to take enough fluids by mouth, intravenous therapy should be continued over a period of time sufficient to promote renal excretion and to combat relapse. At this time, also, vitamin K, 10-25 mg. should be given parenterally to combat the tendency toward hypoprothrombinemia and vitamin C, 100 mg. to help control bleeding. This stage can be diagnosed by CO_2 determinations and the alkaline reaction of the urine.

In the second stage, compensated acidosis, treatment consists of the use of alkalies and glucose solution. The alkaline solution most frequently given is 1/6 molar sodium lactate, although Ringer's lactate is a frequent choice. The amount to be given can be arrived at by the CO_2 determination, and can be given intravenously or subcutaneously, by intravenous drip continuously, or at 6 hour intervals. If CO_2 determinations cannot be made immediately, then the degree of acidosis should be estimated and the lactate solution should be started at once. In addition, 5% glucose in distilled water should be given to supply carbohydrate and to increase hydration and promote diuresis. If the response to the lactate solution has not been satisfactory, some writers reported dramatic response to sodium bicarbonate given in 1.5% solution intravenously in estimated amounts to combat the acidosis. If the patient can take fluids by mouth, orange juice and sodium bicarbonate can be given orally. Vitamin K and vitamin C should be given also subcutaneously. An oxygen tent or O_2 by funnel may be of value and transfusions are helpful, especially if hemorrhagic tendencies are noted. Fluids to cause the elimination of the salicylates in the blood through the kidney are of paramount importance. It has been estimated that 80% of the salicylates appear eventually in the urine as salicyl compounds and 20% as break down products[9].

Clinically it is hard to be sure of the point at which the third stage, decompensated acidosis begins. From the laboratory standpoint the pH of the blood can make this differentiation. However, from the standpoint of treatment the same conditions exist as in the second stage but more seriously and the treatment should be increased correspondingly. At no point should treatment be relaxed until the patient is well hydrated, conscious and the kidneys are excreting satisfactorily.

If convulsions occur lumbar puncture has been reported valuable and sodium phenobarbital subcutaneously helps control the spasms.

COMMENT

In cases of unexplained hyperpnea salicylate poisoning should be suspected, as it is a constant finding in this type of drug poisoning. In one case reported the history given was that the child was being treated with penicillin and benadryl and not until the second day of hospitalization was it discovered that the parents on their own authority had been giving excessive doses of aspirin to control the fever. A simple qualitative test to determine salicylates in the urine is that of Gerhart's. He showed that when ferric chloride is added to urine a purple ring results and remains on boiling if salicylates are present.

The lethal dose of aspirin for man is not exactly known, but, according to Greenberg[10], is a matter of opinion based on "unavoidably unreliable evidence." Children seem particularly susceptible to aspirin and that is especially so in sick children who are taking little food and fluids. There is a definite accumulative effect, which is increased by the dehydration of fever and vomiting. Because of this it is important to be exact in prescribing aspirin for them. A safe dosage is 1 gr. per year of age every 4 hours or 0.04 gm. per kilo of body weight for a 24 hour period—up to 5 years of age. In rheumatic fever larger doses are given—0.125 to 0.150 gm. per kilo of body weight, to produce high blood levels but these cases should be under strict supervision.

In cases of accidental ingestion of aspirin when the amount is not known it is a wise precaution to have the child lavaged. Today when preparations of aspirin are made attractive to children it is of the utmost importance to warn parents of the danger of over-dosage and to caution them to keep their supply in places out of reach of toddlers. If one has ever seen the distressing appearance of a child in the stage of decompensated acidosis, he or she will not hesitate to employ lavage when an unknown amount of aspirin has been taken.

SUMMARY

1. Aspirin in toxic dosage can cause fatal poisoning.
2. Infants and children seem peculiarly susceptible to relatively small amounts of aspirin.
3. Unexplained hyperpnea in infants and children should suggest salicylate intoxication.
4. Salicylate is always found in the blood and urine to confirm a diagnosis of aspirin poisoning.
5. Hydration and correction of acidosis are the two most important factors in treatment of the acidotic stage.
6. Aspirin has a cumulative effect when given over a period of time.
7. A prescribed dose of aspirin should be exact. A safe dosage for children is 1 gr. per year of age every 4 hours up to five years of age.
8. In accidental ingestion of an unknown amount of aspirin gastric lavage is advocated.

The pathology of this case was reported in more detail in the *Virginia Medical Monthly,* June, 1952, by J. A. Tobin and G. R. Hennigar.

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New Books.

We list below some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond 19, which may be borrowed by our readers under usual library rules.

Adriani—The pharmacology of anesthetic drugs. 3rd ed. 1952.
Advances in carbohydrate chemistry. Vol. 7, 1952.
Albritton—Standard values in blood. 1951.
Baer—Plasma substitutes except those derived from human blood. 1940-51. Annotated bibliography. 1951.
Baldwin—Dynamic aspects of biochemistry. 2nd ed. 1952.
Brock—Lung abscess. 1952.
Ginger, et al., ed.—Bacterial pyrogens. 1952.
Hansel—Clinical allergy. 1933.
Herbut—Urological pathology. Vols. I & II. 1952.
Master, et al.—Normal blood pressure and hypertension. 1952.
McLester & Darby—Nutrition and diet in health and disease. 1952.
Novak—Gynecologic and obstetric pathology. 3rd ed., 1952.
Rennie & Bozeman—Vocational service for psychiatric clinic patients. 1952.
U. S. Army Medical Dept.—The physiologic effect of wounds. 1952.

SAMA Sets '53 Program in Motion.

Strengthening its position as the voice of its 15,000 members, the House of Delegates of the Student American Medical Association set an accelerated program in motion during its second annual convention in December in Chicago.

Chief proposal of the delegates from 50 of SAMA's 59 chapters called for a point system in doctor draft legislation to consider all previous military service, regardless of branch or rank. Another resolution asked for a synchronization of doctor draft calls with hospital training programs so that young doctors will not experience unnecessary delay in resumption of their training following military service. The House also urged its constituent chapters to invite officers and staff members from organized medicine to address local meetings so that students will be kept informed on current medical activities. The next convention is scheduled for June.

THE HYPERACTIVE CAROTID SINUS*

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Charlottesville, Virginia

In 1799, Parry[1] reported that pressure over the carotid arteries would retard the human heart rate. In 1923, Hering[2] clearly demonstrated that the carotid sinus, located at the bifurcation of the common carotid artery, initiated the reflex mechanism which played such an important role in controlling heart rate and maintaining arterial blood pressure. More recently Weiss and his co-workers[3] defined three types of carotid sinus syndrome, namely: (1) the vagal type producing bradycardia and even asystole; (2) the depressor type in which there is vasodilatation with secondary depression in blood pressure; (3) the cerebral type in which cardiac rate and blood pressure are not appreciably affected, though fainting, dizziness, weakness, drowsiness, numbness and tingling of the extremities, pallor of the face, hypernea, or even convulsions may be the symptoms noted. The first type, which can be blocked by atropinization, is clearly mediated through afferent fibers known to connect the carotid sinus with the vagus and in turn with the cardioinhibitory center in the medulla. The second type is mediated primarily by fibers known to connect the carotid sinus with the superior cervical ganglion of the sympathetic chain. Small doses of adrenalin will abort an attack of this type of over-activity of the carotid sinus, but atropine is without effect. In the third type, the exact neurological site of activity is not known. Adrenalin and atropine are without effect, but procaine infiltration of the sinus prevents attacks previously produced by local stimulation.

Though the exact type of hyperactivity of the carotid sinus may only be of academic interest, this diagnosis can readily be made. If the patient is examined in the sitting position with the neck slightly extended, the bifurcation of the common carotid artery can readily be located just medial and posterior to the angle of the jaw. By massaging the sensitive carotid sinus for ten or fifteen seconds, the syndrome should be reproduced. Should no syncope or other symptoms result from the aforementioned procedure, at least 3 to 5 minutes should elapse before pressure is exerted on the contralateral side. Never should both sinuses be massaged simultaneously. By use of the stethoscope bradycardia or asystole may be readily ascertained. The EKG, though not requisite, may add pictorial and permanent evidence to substantiate the diagnosis. Serial blood pressure readings before, during, and after the period of digital pressure should confirm any hypotension associated with the depressor type. In the cerebral type, syncope without dramatic decrease in heart rate or blood pressure should be reproduced. Though the three characteristic physical signs of the three types of carotid sinus hyperactivity may be present to some degree in any individual case, usually one of these signs will be found to predominate. Two illustrative cases will be presented in the following paragraphs.

*Case 1.** Mrs. P.E.K., a 65 year old widowed, white woman, was hospitalized on 3rd January, 1952, because of upper abdominal pain with nausea and vomiting of three days duration due to cholecystitis with lithiasis. For many years this patient had had an occasional episode of fainting. During the past six to eight months, she had had weakness and syncope associated with flare-ups of her gallbladder disease. Twenty-seven years previously she had been diagnosed as having early toxemia of pregnancy and had been digitalized. She had continued her digitalis since then and was on a maintenance dose of .2 mgm. digitoxin daily. For 15 to 29 years she had recurrent bronchial asthma but had been asymptomatic for about six months.

Physical examination on admission revealed a poorly developed and mildly undernourished woman, who appeared moderately ill and was somewhat dehydrated. The heart was slightly enlarged to the left and downward. The rhythm was regular. The rate was 60. Blood pressure was 120/70. No murmurs were heard. The lung fields were clear. The abdomen was moderately tender in the right upper quadrant with some muscle spasm over the gallbladder area. At the time of her admission, carotid sinus activity was not tested, and the remainder

*Read before the annual meeting of The Medical Society of Virginia, at Richmond, September 28-October 1, 1952.

*Patient reported through the courtesy of Drs. H. L. Archer and E. D. Davis, Jr.

of the physical examination was normal.

Laboratory data: The Kahn test was negative. The hemoglobin was 13 gms., the white cell count was 5,800, and the red cell count was 3.9 million. Admission urine obtained after intravenous glucose administration revealed a specific gravity of 1.018, with a 4 plus reduction for sugar, 4 plus reaction for acetone and a plus 2 albumin. The urinary sediment was normal. A later urine examination failed to show any reduction with Benedict's solution nor was there any acetone or albumin present. The icterus index and prothrombin time were normal.

During the first five days of hospitalization, this lady had exacerbations of her abdominal pain and nausea with vomiting so that she took little by mouth and required repeated infusions. On four occasions, she had episodes of marked fall in blood pressure, weakness, and pallor and a relative bradycardia varying between 60 and 72. These peculiar "shock like" episodes lasted from two to four hours and were relieved by transfusions and/or by the intravenous administration of 5% glucose in normal saline. The fasting blood sugar was normal, and one drawn shortly after an infusion of glucose and during one of her syncopal attacks was 176 mgm. per cent. Examination on the fifth hospital day with carotid sinus massage revealed evidence of a hyperative carotid sinus, primarily of the depressor type with a rather striking drop in blood pressure. The electrocardiogram as well as the laboratory findings showed evidence of hypopotassemia. Figure 1 demonstrates the fall in blood pressure, the decrease in pulse, and the electro-cardiographic changes with carotid sinus massage. Figure 2 presents the electrolytic evidence of hypokalemia and hypochloremic acidosis so often seen in potassium deficiency. It also shows the effect of potassium on the electrocardiographic changes. Her clinical improvement was quite striking. On the seventh hospital day, forty-eight hours after initiating therapy for her potassium deficiency and for her hyperactive carotid sinus, this lady, who had previously had nausea and vomiting, abdominal pain and discomfort, extreme weakness, and syncopal episodes, was feeling much stronger and taking a full liquid diet. Ephedrine sulfate, 24 mgm., four times a day and the equivalent of sixty drops of tincture of belladonna per day were maintained throughout her hospital stay. On the eighteenth day after admission, she had a cholecystectomy without difficulty.

Follow-up visits to the office in April and June, 1952, revealed that she had had no syncopal or weak spells. Her medications had been maintained until about ten days prior to her last check-up. At that

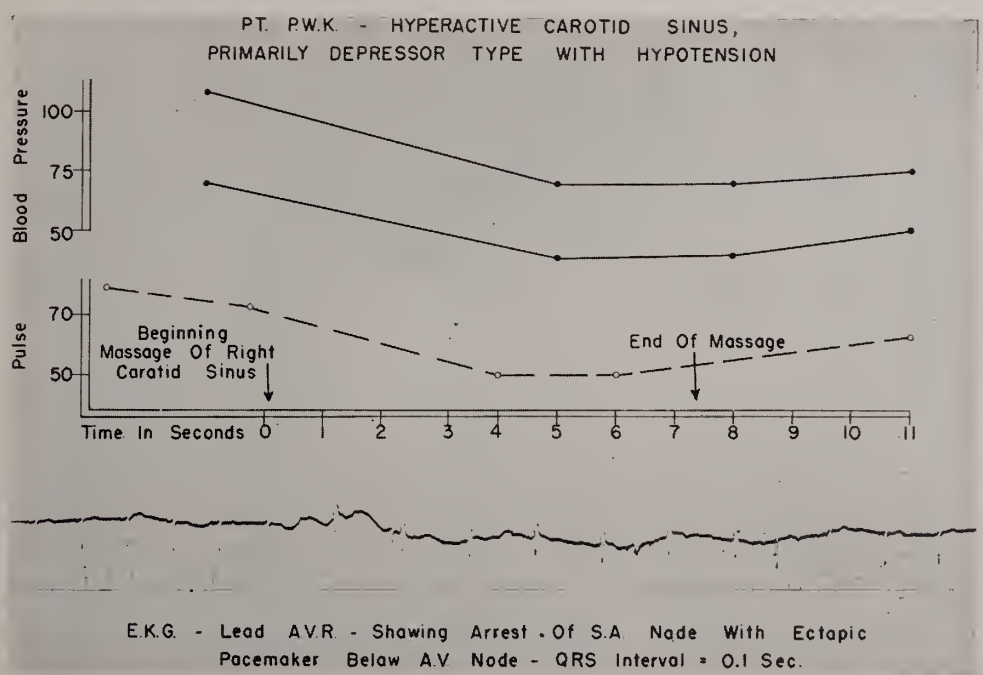


Fig. 1

DATE	EKG LEAD TWO	SERUM POTASSIUM	SERUM SODIUM	CO_2 COMBIN- ING POWER	BLOOD CHLORIDES	BLOOD UREA	TREATMENT
6 P. M. 8th JAN. 1952	 QT INTERVAL - 0.44 SECS. DEPRESSION OF ST JUNCTION AND SAGGING OF ST SEGMENTS IS PRONOUNCED. BROAD T WAVE - 0.2 SECS.						ABOUT 8 P.M. 1,000 CC. 5% GLUCOSE, 4 CC. BETALIN COMPLEX, AND 40 MILLE EQUIVALENTS OF KCL I.V. SHE BEGAN TO TAKE FULL LIQUID DIET AND WAS PLACED ON EPHEDRINE SULFATE 24 MG., THE EQUIVALENT OF TINCTURE OF BELLADONNA MINIMS XV AND PHENOBARB 32 MG., ALL FOUR TIMES A DAY. DIGITOLIN PERMANENTLY DISCONTINUED.
9th JAN. 1952	 QT INTERVAL 0.41 SECS.	2.75 MEQ/L OR 10.75 MG%	130.4 MEQ/L OR 300 MG%				SAME AS 8th JANUARY.
10th JAN. 1952		3.85 MEQ/L OR 15.0 MG%	136.8 MEQ/L OR 315 MG%	21.4 MEQ/L OR 46 VOL.%	63 MEQ/L OR 3.6 MG%	15 MG%	NO ADDED POTASSIUM OR I.V. FLUIDS, OTHERWISE AS OF 9th JANUARY.
11th JAN. 1952	 QT INTERVAL - 0.28 SECS. SLIGHT ST DEPRESSION DUE TO DIGITALIS.						SAME AS 10th JANUARY

FIGURE 2 - FOR CASE #1, THE ELECTROCARDIOGRAPHIC AND ELECTROLYTIC EVIDENCE OF HYPOKALEMIA WITH HYPOCHLOREMIC ACIDOSIS IS PRESENTED. THE THERAPY GIVEN THIS LADY AND THE EFFECTS ON THE SERIAL ELECTROCARDIOGRAMS TAKEN OVER A 72 HOUR PERIOD ARE SUMMARIZED.

Fig. 2

time she had discontinued her ephedrine and reduced her belladonna to the equivalent of thirty-two drops per day. In June, her resting blood pressure was 150/90, and massage of the carotid sinuses, performed on both occasions, resulted only in a mild transient drop in blood pressure and decrease in pulse rate without syncope or evidence of arrest of the SA node. See figure 3 comparing her tracing taken on 12th June with that of 6th January 1952.

Case 2. J.E.Q., a 62 year old white day laborer, was hospitalized on 5th February, 1945, because of "weak, dizzy spells", occurring two or three times a week during the previous two years. Pressure on either side of his neck seemed to reproduce his symptoms which rest in a reclining position relieved. Though he had felt as though he might pass out, there was no actual history of convulsions or loss of consciousness. Physical examination revealed that massage of the right carotid sinus produced cardiac asystole for a period of 3.2 seconds. See Figure 4 for electrocardiographic verification. Except for moderate enlargement of the lateral lobe of the pros-

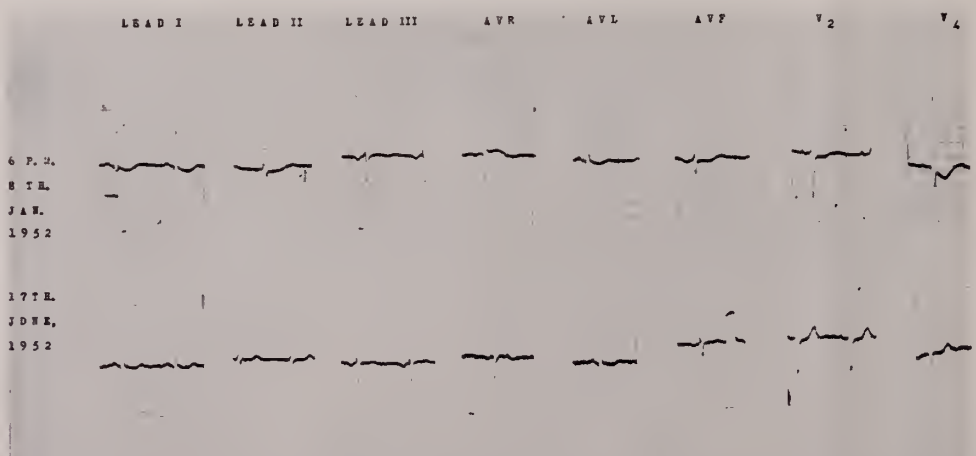


FIGURE 3 - CASE 1, (P.W.K.) COMPARING ORIGINAL EKG OF 8 JAN. 1952, WITH THAT OF 17 JUNE 1952. PROLONGED QT INTERVAL (0.44 SECONDS), MARKED SAGGING OF ST JUNCTION AND ST DEPRESSION IS NOTED IN THE ORIGINAL TRACING. THE SECOND IS NORMAL AND THE QT INTERVAL IS 0.33 SECONDS.

Fig. 3



Fig. 4—Carotid sinus activity (vagal type), with S. A. node arrest of 3.2 seconds resulting from massage of right carotid sinus. (Patient J.E.Q., University of Virginia Hospital #210-301.)

tate, the rest of the physical examination was not remarkable. Tincture of belladonna, twenty drops t.i.d., and ephedrine, grains three-eighths, b.i.d., eliminated clinical and electrocardiographic evidence of his hyperactive carotid sinus.

In Table 1, the age, sex, duration of symptoms, treatment, and response to therapy are summarized for the six cases included in this study. In five out of six patients, their symptoms had been present from four months to fifteen years. Since the diagnosis of carotid sinus syndrome can readily be made, it should be considered in all cases of unexplained weakness, giddiness, or fainting. Though predominately occurring in persons over thirty-five, youth is not exempt. The concurrence of idiopathic epilepsy and an overactive carotid sinus is extremely rare. Nevertheless, older persons with cerebral degenerative disease may occasionally also be found to have hyperactivity of the carotid sinus. Such was the case in the second subject, H.B.F., in this series.

Drug therapy is summarized in Table 1. Glaucoma or allergy to atropine, belladonna, or banthine may be an absolute contraindication in the vagal type. Small amounts of sedation, phenobarb, etc., may be requisite to counteract the side effect of ephedrine, paredrine, or similar medications employed to prevent hypotension. Mechanical sources of pressure should be eliminated; if intrinsic, i.e., calcified or enlarged nodes, such should be alleviated by appropriate means; if extrinsic, stiff collars, chokers, etc., their use should be scrupulously avoided. Digitalis and hypoglycemia due either to insulin or functional derangement of the autonomic nervous system may sensitize the carotid sinus.[3,5,6,7] Except for severe heart failure, the digitalis group of drugs are con-

Six Cases of the Hyperactive Carotid Sinus

Case Number	Age and Sex	Duration of Symptoms	Type	Verification	Treatment	Result
1. (P.W.K.)	65 Female	Six to eight months	Depressor primarily and vagal secondarily	Drop in blood pressure, changes in pulse and cardiac pacemaker verified by EKG.	Ephedrine sulfate 24 mg. and the equivalent of 15 drops of tincture belladonna, both four times daily.	Excellent
2. (H.B.F.)	60 Male	15 years	Vagal	Clinical and EKG evidence of cardiac arrest	*Phenobarb. 16 mg. 4 times a day.	Some improvement
3. (J.E.Q.)	62 Male	2 years	Vagal	Clinical and EKG evidence of cardiac arrest	Tincture of belladonna 20 drops three times daily. Ephedrine sulfate 24 mg. three times daily P. R. N.	Excellent
4. (B.J.J.)	60 Female	1 month	Vagal	Clinical and EKG evidence of cardiac arrest	Tincture of belladonna 15 drops, three times a day.	Unknown. No follow up
5. (C.L.R.)	59 Male	4 to 5 years	Vagal	Clinical with asystole on palpating neck.	Atropine by hypo. 0.86 mg., and then 0.43 mg. every 6 hrs. for 5 doses.	Unknown. Patient had advanced carcinomatosis
6. (G.T.F.)	69 Male	4 months	Vagal	EKG showing cardiac arrest.	Ephedrine sulfate 24 mg. daily and atropinization P. R. N.	Probably did improve but follow up not adequate

*Convulsive seizures possibly associated with cerebral degenerative disease due to cerebral arteriosclerosis.

TABLE I

traindicated. Functional fluctuations of the blood sugar can be avoided by restricting the carbohydrate intake and increasing the amount of protein ingested at meals. If medical therapy does not control the sensitive carotid sinus, surgical denervation is indicated.

One other complication of increased activity of the carotid sinus deserves attention, namely: the occurrence of cardiac arrest during anesthesia. This dramatic and too often fatal complication is estimated to occur once during the life time of an active surgeon or about once in every ten thousand operations. Two factors which play a role in cardiac arrest are: (1) Manipulation of the neck and head with inadvertent massage of the carotid area particularly during the induction phase of anesthesia.[3,8] (2) Certain types of anesthetics have been reported to sensitize the carotid sinus.[8]. Nitrous oxide and sodium pentothal are under scrutiny for this reason. Care on the part of the anesthetist in avoiding the carotid area would remedy the first. Increasing the pre-operative dose of atropine to one or two mgm. would do a great deal to alleviate the second.

Conclusion: Hyperactivity of the carotid sinus is readily diagnosed by any alert physician. It should be considered in any case of unexplained syncope, giddiness, or convulsive seizures. Treatment as outlined is usually quite gratifying. Cardiac arrest during anesthesia, though a relatively rare occurrence, might in many cases be avoided by increasing the pre-operative dose of atropine and by the anesthetist being careful not to inadvertly massage the carotid sinus.

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Keep Plugging "Your Doctor" Film.

Local medical societies can improve their "public relations rating" in the community by booking the "Your Doctor" film for non-theatrical showings at society meetings or to PTAs, schools, churches and other groups interested in health. Sixteen millimeter prints of this 15-minute sound film now are available on loan from Modern Talking Picture Service, Inc., 45 Rockefeller Plaza, New York 20, N.Y. Produced as a documentary, this film points up ways in which the medical profession has helped to bring better medical care to everyone. During 1952 more than 12 million Americans viewed the movie in over 5,000 commercial theaters throughout the country. It is hoped that medical societies will continue to promote the film locally.

TUBERCULOSIS IN INFANCY AND CHILDHOOD*

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Tuberculous infection in infancy and early childhood is more common than is generally believed. For example, in our own BCG program at the Medical College of Virginia in which clinic patients under the age of 6 months are vaccinated against tuberculosis, it has been found that about 7 per cent of the control group are already infected with tuberculosis. All except one of these children were found to be tuberculin positive when under 2 years of age.

In order to properly evaluate childhood tuberculosis, one must be aware of the pathogenesis. An adaptation of Wallgren's[1] presentation states that, following tuberculosis infection, which in over 90 per cent of the instances is in the lung parenchyma, there is a 2 to 8 week incubation period, during which tubercle bacilli are conveyed from the portal of entry by way of the lymphatics to the regional lymph nodes. The glands become hyperemic and edematous and may contain areas of caseation. At the close of the incubation period allergy sets in, as manifested by the positive tuberculin test. Near the close of the incubation period there is often a transient bacillemia and tubercle bacilli are disseminated into the blood stream and set up depots or foci.

Brailey's[2] work has indicated that (1) those children infected with tuberculosis under the age of 3 years bear a more serious prognosis than those infected after that time; (2) colored children infected with tuberculosis have a worse prognosis than do white; (3) those children who show a parenchymal lesion at the time of the first chest x-ray (after demonstration of a positive tuberculin test) bear a more serious prognosis than do those who show no parenchymal lesion, and (4) the first year following the demonstration of the presence of tuberculous infection is most important. Those children who appear to be well at the end of this time have a good chance for complete recovery.

Diagnosis of tuberculosis in childhood is effected by means of the tuberculin test.[3] This test should be performed routinely on all infants between the age of 12 and 18 months and on all new patients more than a few months of age. Since the vast majority of children with tuberculous infection exhibit no physical or roentgenological evidence of the disease, the routine tuberculin test is the only way to bring about early diagnosis in most instances. Whenever an adult is found to have active tuberculous disease, it is, of course, necessary that a tuberculin test be performed on all children who have been in contact with the diseased individual.

The routine tuberculin test may be performed with the patch test or by the intradermal use of old tuberculin solution, or P.P.D. When the patch test is used the skin is thoroughly cleansed with acetone or ether and the patch applied between the scapulae. The parent is cautioned not to allow the patch to become wet and to remove the patch 48 hours after it has been applied. Reading is done 48 hours later and there must be either marked redness and induration (0.5 cm. in diameter) or vesiculation of either or both of the top and bottom squares in order to be called positive. If there is any doubt, e.g., if there is some induration and redness of the above mentioned squares with no demonstrable vesiculation, it would seem wise to follow up with an intradermal test.

For routine intradermal use, one may choose either old tuberculin solution (0.1 mg.) or P.P.D. solution (1st strength). Reading is done 48 hours after the test is performed and the area of redness and induration must be at least 0.5 cm. in diameter in order to be adjudged positive. In reading the test in the deeply pigmented skin of Negroes, one must rely largely on the area of induration.

If tuberculosis is suspected, one must either use the patch test or begin with an intradermal test of a much higher dilution (lower strength) of old tuberculin.

Whenever routine skin testing reveals tuberculous infection in a child all adult contacts must have a chest x-ray. The routine tuberculin test in children has been found to be a definite aid in adult tuberculosis case finding.[4]

When tuberculous infection is diagnosed in a child,

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prompt search for and removal of the adult contact is the first requisite for satisfactory treatment. The next requirement is careful study of the infected child with subsequent close follow-up. The child who has a positive tuberculin test, but who has no other demonstable sign of the disease either on physical examination or roentgenogram, must be classed in the same group as those which show roentgenographic evidence of mediastinal tuberculosis, with or without a demonstrable primary parenchymal focus. Adequate diet, added vitamins and plenty of rest are necessary. Further, these children must be rechecked at frequent intervals during the first few months after the disease has been diagnosed and at increasingly longer intervals thereafter. For example, a 2 year old child with mediastinal tuberculosis should have either fluoroscopic or roentgenographic chest examinations every month for the first 3 months, then again after 3 months and 6 months. After 1 year has passed an annual chest x-ray will be sufficient unless there is clinical evidence of activation of the disease process.

The child who has so-called "progessive primary tuberculosis" should have a therapeutic trial with isonicotinic acid hydrazide. If this is unsuccessful, streptomycin may be used, although most clinicians prefer to save the latter for such complications as miliary tuberculosis and tuberculous miningitis.

Today some cases of tuberculous meningitis apparently can be cured. At the Medical College of Virginia the first case of tuberculous meningitis treated with streptomycin was admitted in October, 1947. Of the first twenty cases[5] treated with streptomycin and promizole, 9 are living more than two and one-half years later. There have been many more cases since that time, of course, but there has been no significant change in therapeutic results.

Our own schedule of therapy, a modification of that suggested by Lincoln,[6,7,8] is as follows.

(1) 40 intrathecal injections of streptomycin, 25 to 100 mg. each, over a 9 week period.

(2) Intramuscular streptomycin, 20 to 40 mg. per pound of body weight per day over a 6 months period.

(3) Promizole in quantity sufficient to maintain a blood level of 1 to 3 mg. per cent over a 3 year period.

We have made many modifications of the above schedule. Para-amino-salicylic acid has sometimes been substituted for promizole and now we are adding isonicotinic acid hydrazide to our routine treatment.

In closing, then, it is our feeling that the approach to tuberculosis in childhood is threefold: (1) case finding, with removal of the adult contact and careful follow-up of the infected child; (2) prompt and judicious use of the accepted chemotherapeutic agents in the treatment of the severe forms of the disease, and (3) a BCG program in the infants of population groups with high tuberculosis morbidity and mortality rates.

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PATHOLOGICAL PHYSIOLOGY OF CHRONIC LUNG DISEASE

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Introduction

The purpose of this report is to describe briefly the abnormalities in respiratory physiology that accompany chronic lung disease. Pulmonary emphysema and pulmonary fibrosis are the usual causes. For that reason, this discussion will be limited to these two conditions, and to the pulmonary hypertension that often accompanies them. There are other important and interesting conditions, but space does not permit their consideration. A short description of normal lung functions will serve to introduce the subject. There are no original observations in this report. Most of the material covered can be found in reports by the Cournand and Richards group[1,3] and by Wright and Filley[2]. Many of the physiological observations have been repeated in the Cardio-Pulmonary Laboratory at the University of Virginia Hospital.

It is the purpose of the respiratory apparatus to introduce oxygen into, and remove carbon dioxide from the blood. In doing this, it also helps to regulate the acidity of the body fluids. Lung function may be divided into two main parts: Ventilatory Function and Respiratory Function.

Ventilation includes all processes concerned with the transport of air through the respiratory passages and its distribution to the alveoli. It requires an intact thoracic cage and diaphragm with adequate respiratory muscles, patent airway, and reasonable lung elasticity and volume. Respiratory function includes the processes concerned with the passage of oxygen and carbon dioxide across the alveolar-capillary membrane. It requires a permeable membrane as well as adequate pulmonary circulation.

Pulmonary Emphysema

The disability of pulmonary emphysema can be explained by the physical, pathological and physiological abnormalities found in this disease. The most obvious abnormality is the over inflation of the lungs. Inspection reveals the relatively immobile chest held in the inspiratory position. Fluoroscopy shows the depressed and poorly moving diaphragm. The decrease in pulmonary markings as seen in the chest x-ray is further evidence of abnormal lung distention.

The excessive lung inflation is due to two factors. First, there is the loss of the pulmonary elastic tissue that normally causes contraction of the lung. The second factor is the narrowing of the lumen of the smaller bronchi and bronchioles. The presence of this bronchial narrowing may be hard to demonstrate. Wheezing, when present, indicates partial bronchial obstruction. The very prolonged expiration time so characteristic of emphysema must be due to narrowing of the bronchial lumina. Finally, the powerful effort required by the patient to force air out of the emphysematous lung must be due to obstruction.

Poor respiratory mechanics further impair ventilation. The chest that is held permanently in an inspiratory position with a diaphragm that is permanently depressed cannot function well as a bellows.

The physiological effects of these changes are important. The vital capacity is reduced. The amount of air that can be moved in and out of the lungs per minute, that is, the maximum breathing capacity, is reduced. The amount of air remaining in the lung at the end of expiration, that is, residual air, is increased.

The bronchial narrowing and loss of elastic tissue are not uniform throughout the lung. The result is that there is unequal distribution of the inspired gases within the lung. There is poor ventilation of some areas, and good ventilation of others. If the poorly ventilated areas are well perfused with blood, and this seems to happen at times, this blood will come through poorly aerated. If the ventilatory deficiency and the imbalance between alveolar ventilation and perfusion are well developed, the arterial blood will have less oxygen and more carbon dioxide than normal. If there is much retention of carbon dioxide, respiratory acidosis will develop.

Pulmonary Fibrosis

The physiological abnormalities associated with

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the proliferation of fibrous connective tissue, within the lung will depend on its location, amount, and histological characteristics. If the fibrosis is localized, there may be no demonstrable physiological changes. If, on the other hand, it is extensive, or, as so often happens, the fibrosis is complicated by emphysema, the physiological changes may be profound.

Fibrosis may alter pulmonary function in the following ways:

1. It may destroy or replace functioning lung tissue. Its very existence means that a certain amount of lung tissue must be lost.
2. It restricts motion of the lungs. Not only may there be large blocks of fibrous tissue that cannot expand, but, if there are strands of fibrosis running through the lung, they may restrict expansion of normal alveoli.
3. Growth of fibrous tissue within the lumen of the bronchi or its growth and contraction in bronchial walls and adjacent tissue will cause obstruction and interfere with air flow.
4. The alveolar walls may be thickened so that there is increased resistance to the flow of oxygen and carbon dioxide between the interior of the alveoli and the pulmonary capillaries.
5. In addition to these rather clear cut factors, Dr. Wright has discussed the importance of abnormal stimuli arising from the diseased tissues of the respiratory apparatus. In the normal lung there are specialized nerve endings that are sensitive to changes of tension in the surrounding tissue. They initiate reflexes that control respiratory rate and depth. It seems likely that the abnormal elasticity of the scarred lung would set up abnormal reflexes. These may explain the abnormal breathing patterns, such as excessive hyperventilation from minor exercise, that sometimes occur.

The degree of anoxemia resulting from the structural changes will depend to a large extent on the amount of fibrosis. It will also depend on the amount of blood flowing through the fibrotic areas. If the blood vessels through the diseased tissue are obliterated by the process or obstructed by vasospasm, all the blood will go through good lung tissue and there will be little or no decrease in arterial oxygen saturation. If, however, the vessels through the diseased and non-functioning lung remain open, the perfused blood will not be well aerated and arterial oxygen levels will be low. Fortunately, the blood vessels through areas of fibrosis are usually obstructed.

The abnormalities found in pulmonary fibrosis are likely to cause a reduction in the vital capacity, a decrease in maximum breathing capacity, a reduction in arterial oxygen, saturation, and abnormal breathing patterns.

Cardiac Complications

Pulmonary hypertension often accompanies chronic lung disease. In emphysema the chief cause is chronic anoxemia while in pulmonary fibrosis the chief cause is obliteration of the pulmonary vascular bed.

The effects of anoxemia itself are remarkable. It causes local vasoconstriction of the pulmonary arteries, and an increase in the cardiac out-put. When chronic, it causes polycythemia and an increase in blood volume, leading to engorgement of the pulmonary vessels. The result is an increased amount of blood flowing through vessels already filled to the limit of their distensibility. The pulmonary blood pressure has to rise.

Sustained pulmonary hypertension leads to hypertrophy and finally dilatation and failure of the right ventricle. That is, cor pulmonale develops. The clinical implications are great. The patient now has the manifestations of heart failure as well as those of his original pulmonary disease.

Alterations in function that may be found with cor pulmonale include pulmonary hypertension, normal, decreased or increased cardiac output, increased venous pressure, and increased circulation time.

Summary

Pulmonary emphysema and pulmonary fibrosis lead to serious alterations in respiratory function. Pulmonary ventilation is decreased. Inspired air is poorly mixed and poorly distributed to functioning alveoli. There may be defective perfusion through the alveolar-capillary membrane. As a result of these abnormalities there may be deficient oxygen and excess carbon dioxide in arterial blood. Chronic anoxemia plus obliteration of the pulmonary vascular bed leads to pulmonary hypertension and cor pulmonale.

The dyspnea of chronic lung disease is largely due to the increased respiratory effort needed to overcome

the partial bronchial obstruction, loss of lung elasticity, and poor respiratory mechanics.

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Report Brain Operation Aids Chronically Mentally Ill.

Bilateral prefrontal lobotomy is capable of aiding the return of chronically mentally ill patients to the community, it was reported in the January 17 J.A.M.A., by Dr. Milton Greenblatt, E. Emily Robertson, M.S., and Dr. Harry C. Solomon, Boston, following a five-year study of the first 100 patients on whom the operation was performed at the Boston Psychopathic Hospital. The authors are associated with the hospital, and with the department of psychiatry, Harvard Medical School.

Bilateral prefrontal lobotomy is an operation which severs nerve fibers of the front part of the brain to keep certain nerve impulses from reaching the brain. At the end of five years, 40 of the 100 patients were residing in the community, 45 were in hospitals, 12 had died, and three could not be traced, according to the authors. Only two of the deaths were related to the operation, they added.

Twenty-nine per cent of the patients on whom information was available were considered to be making good work adjustment at the end of the five-year period, as compared to two per cent prior to the operation. This meant that they were earning a salary and that their performance satisfied their employers if engaged in labor; if engaged as housewives, they were working full time and satisfactorily, as far as their relatives were concerned.

Thirty-four per cent of the patients were considered by the doctors to have made fair adjustments following the operation. This consisted of partial remission of most if not all symptoms, or complete remission of at least a few important symptoms. The condition of 37 per cent of the patients remained essentially unchanged.

The authors stated: "The results indicate that bilateral prefrontal lobotomy is capable of effecting a rise in the level of adaptation of chronically mentally ill patients and that this rise is generally sustained over a five year period."

"Improvement in these patients is striking when their condition is compared to their preoperative state of deterioration; however, in most cases, improvement is not sufficient to reach the preillness level of adaptation."

They said that convulsive seizures occurred in 12 per cent of the patients, but that these were usually few in number and readily controlled by anticonvulsive therapy.

The operations were performed between October, 1943, and April, 1946. All the patients had suffered from chronic mental illness for an average duration of six years; the prognosis of the disease was considered hopeless. Most of the patients were skilled laborers, clerical employees and housekeepers; about half had graduated from high school.

SPONTANEOUS HEMOPNEUMOTHORAX OCCURRING IN A FEMALE

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A sizable literature on spontaneous hemopneumothorax has accumulated despite its infrequent occurrence. The rarity, difficult problems encountered clinically and changing concepts of therapy, have all contributed towards this interest. Up to 1951, there were 62 cases of this entity described in the literature. In two of these cases the patients were females. It is the purpose of this paper to describe the third case of spontaneous hemopneumothorax occurring in a female, and to comment upon the interesting aspects of this condition.

Spontaneous hemopneumothorax was first reported by Pitt[1] in 1900. Up to 1942, Hartzell[2], in a review of the literature, collected 40 cases and added 3 of his own. In 1951, Moser[3] reported 4 cases and noted that there were 58 cases recorded up to that time.

Spontaneous hemopneumothorax is a complication of spontaneous pneumothorax and is best understood by considering the pathogenesis of the parent condition. The evolution of the latter entity is still in dispute though several theories have been advocated. There is general agreement that spontaneous pneumothorax is caused by rupture of an emphysematous bleb, but where such authors as Macklin[4] and Ornstein[5] differ, is on the formation of the bleb itself.

In animal experiments Macklin[4] attempted to prove that the precursor to spontaneous pneumothorax was air dissecting along the pulmonary interstitial tissues subpleurally. Ornstein[5], on the other hand, ascribed bleb formation to a check valve mechanism in the distal bronchioles. The complication of hemothorax is fortuitous and depends on the presence of a blood vessel either in the bleb, or in an adjacent pleural adhesion. The extent of the hemopneumothorax then depends on the size of the bleb and the elasticity of the adjacent lung tissue.

CASE REPORT

This 24 year old white single sales girl was entirely well until October 17, 1951, when she noted aching precordial and left lateral chest pain. This pain was fleeting for the first three days, and then became severe and persistent. There was no cough, fever or antecedent illness. At onset of the illness and for 2 days thereafter only a rectal temperature of 100° and a slightly injected pharynx were noted on physical examination. On the third day, the patient became acutely ill, moderately dyspneic, a friction rub was heard at Erb's point and there was splinting of the left chest. Later that day there was cough, expectoration of thick yellow sputum and left pleural effusion extending up to the 8th rib posteriorly. As the effusion extended, the pain subsided and the pulse rate increased to 120. At no time was the blood pressure recorded below 110/70. Hyperresonance, absent breath sounds and a succussion splash were then noted. Prior to hospitalization the patient was placed on antibiotics and Demerol for relief of pain. The patient was hospitalized one week after onset



Fig. 1. The initial chest film reveals a fluid level in the left pleural cavity extending up to the 6th posterior rib. The small density above the fluid (blood) is a portion of the collapsed left lung.

of her illness. There, the physical findings were as above; left pleural effusion now up to the 6th rib posteriorly with air above the fluid, tachycardia and B. P. 117/70. Pertinent laboratory findings were: Hb of 50%, RBC 2.4 million, WBC 8,800 with 81% polys. The initial X-ray (Fig. 1) revealed pleural fluid up to the 6th rib posteriorly, a collapsed left lung and air above the fluid. The right lung was normal. Thoracentesis was performed the day following hospitalization and 800 cc. of blood were removed from the left pleural cavity with appreciable relief of dyspnea. A 500 cc. blood transfusion was given at this time. The following day 900 cc. of blood were removed from the left chest. The dyspnea then disappeared. X-ray of the chest after aspiration of 1700 cc. of blood (Fig. 2) revealed a



Fig. 2. A considerable re-expansion of the left lung is seen after the removal of 1700 c.c. from the left pleural cavity. The fluid level is now at the 8th posterior rib.

decrease in the fluid level and some expansion of the collapsed lung. The patient's subsequent course in the hospital was uphill. In all, 4 thoracenteses were performed with the removal of 2600 cc. of blood from the left pleural cavity. X-ray of the chest at this time (Fig. 3) revealed almost complete expansion of the left lung, and blunting of the left costophrenic angle. At no time was the patient's temperature above 100 degrees. Her blood pressure

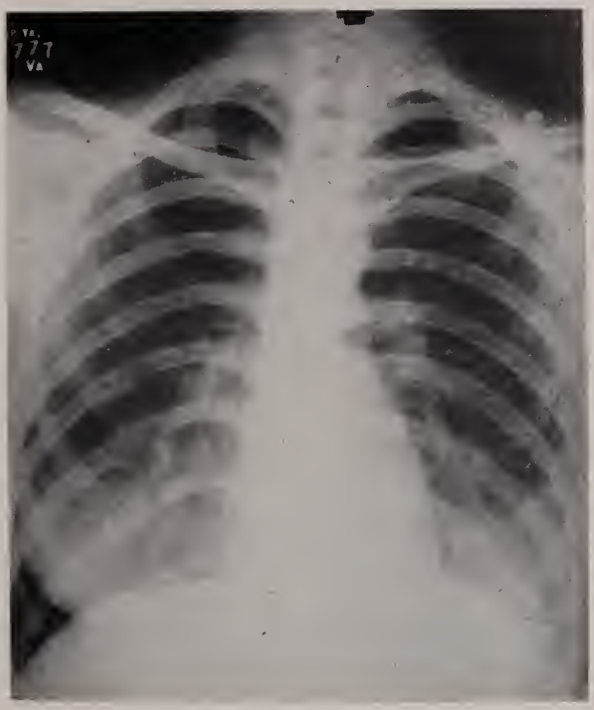


Fig. 3. Complete expansion of the left lung is seen after removal of 2600 c.c. of blood from the left pleural cavity.

remained stable throughout. By the end of her hospital stay and following two blood transfusions the Hb was 88%, RBC 4.5 millions. The duration of her illness was six weeks in all. Since her return home she has gone back to her job as sales girl. A follow-up chest film on December 15 revealed only blunting at the left costophrenic angle.

Discussion

The onset of spontaneous hemopneumothorax is not necessarily a sudden one, as is generally believed. Leach,[6] in his review of 126 cases of spontaneous pneumothorax, noted an insidious onset in 35 of his cases. This is in keeping with the events which took place in our case. The patient had malaise for 3-days, then noted increasing degrees of left lateral chest pain, and finally with probable diaphragmatic involvement, left shoulder and scapular pain.

The majority of the cases in the literature, in approximately 80%, are on the right side. In our case the episode occurred on the left side. There has been no adequate explanation for the predilection of this entity for the right pleural cavity. Nor has any reason been put forth as to the predominance of males with this condition. The patient with spontaneous pneumothorax is usually a healthy robust

individual. On the other hand, spontaneous hemopneumothorax occurs in an individual who is healthy, but somewhat underweight. It is the accepted view, that there is no history of previous disease or trauma. When hemopneumothorax occurs in an individual with tuberculosis, the episode is not called spontaneous, and there is usually widespread evidence of tuberculous pulmonary involvement.

In our case, the purulent sputum was secondary to a superimposed infection in the collapsed lung. By the time the patient was hospitalized, the sputum became mucoid and culture of both sputum and pleural blood were negative.

We believe that this patient did so well because of prompt pleural aspiration, replacement of whole blood, and the liberal use of antibiotics. Until very recently these concepts were much disputed in the literature. Certain authors have been opposed to prompt and rapid removal of blood from the pleural space. Their arguments have been that the production of a negative pleural pressure would stimulate increasing hemorrhage. Furthermore, there have been some advocates of cautious removal of blood and replacement with air into the pleural cavity. Recent observations by Johnson[7] have demonstrated that prompt aspiration of all possible blood consistent with the welfare of the patient, is the treatment of choice. There is usually no difficulty in the thoracentesis of blood because, as Cosgriff[8] has demonstrated, it has lost its coagulability. This absence of clotting is believed to occur approximately two hours after the onset of the hemopneumothorax, and is most likely due to the whipping action of the diaphragm, mediastinal shift and the resultant deposition of fibrin on the pleural layers.

Replacement of blood volume has been interdicted by Head[9] because of the possibility of increased blood pressure with disturbance of clot formation at the bleeding site. This has not been the experience of Johnson[7], and was not true in the case being reported.

Until recently, empyema and subsequent surgery in spontaneous hemopneumothorax was a common occurrence. This was true in almost one-half of the cases reported. With the advent of antibiotics, if the entity is recognized in time, this complication can be avoided. The liberal use of chemotherapy is advocated because of the ability of blood to act as an excellent bacterial culture medium. In our case 500 grams of chloroamphenicol were used.

The drug of choice for control of pain is, in our opinion, Demerol. The excessive suppression of the cough reflex and depression of the respiratory center can thus be avoided.

It is important that the diagnosis of spontaneous hemopneumothorax be made as early as possible and treatment as outlined be instituted. This can not be emphasized too strongly. The diagnosis is not difficult if the clinical entity is kept in mind. Certainly the simple procedure of shaking the patient and eliciting the succussion splash, will make the diagnosis in a young healthy adult male, and rarely, adult female. The later complications of empyema and fibrothorax can be avoided by prompt and vigorous treatment.

CONCLUSION

A case of spontaneous hemopneumothorax in a young previously healthy female is reported.

The literature and interesting aspects of this clinical entity have been commented upon.

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TRICHINOSIS
A CASE REPORT*

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The incidence of trichinella spiralis infestation seems to be decreasing, as would be indicated by a report from San Francisco[1] that 24% in 1936 and 8% in 1949-50 of diaphragms of unselected autopsy material contained parasites. However, many of these cases were unrecognized and untreated during life, and for that reason it remains important that one be familiar with the clinical features of trichinosis, even though at times bizarre, in order that the diagnosis may be established, therapy begun, and preventive measures undertaken.

The following patient was seen recently at the Chesapeake and Ohio Hospital, and is believed to represent a rather typical acute, moderately severe, but uncomplicated case of trichinosis.

Case Report

Mrs. G. T., a 25 year old white German war bride, having lived in this country three years, was admitted to the hospital on February 10, 1952, complaining of "aching all over."

The patient had been well until 12 to 14 days before admission when she noticed the onset of generalized malaise, nausea, abdominal cramps, and watery diarrhea. She was treated with "sulfa" drugs and penicillin without improvement. The diarrhea subsided 4 days prior to admission, but the following day chilly sensations, fever, and swelling around the eyes appeared. Two days prior to admission the patient noticed aching in her shoulders, forearms, and calves. The systems review was negative except for amenorrhea of approximately two months duration.

Physical examination revealed a well developed and well nourished female with an oral temperature of 100°F., pulse 74, respiration 20, and blood pressure 110/70. There was minimal periorbital edema, and flushing of the face, and several small bilateral cervical nodes were palpable. Marked tenderness of both deltoid regions, forearms, and calves was present, as was tenderness of the lower abdomen. Pelvic examination revealed a soft uterus of twice normal size.

The initial impression was trichinosis with pregnancy. The patient was questioned further with particular emphasis on possible ingestion of raw or poorly cooked pork products. She stated that she frequently ate raw hamburger sandwiches, and had done so within the week preceding onset of symptoms.

Laboratory studies revealed a normal hemoglobin, urinalysis, stool and serology. The white count was 21,400, and the differential count revealed 7% lymphocytes, 9% monocytes, 72% neutrophil segmented cells, and 12% eosinophils. Blood urea, sugar, sedimentation rate, and agglutinations for typhoid, paratyphoid, and brucella abortus were normal or negative. A chest x-ray was normal, as was an electrocardiogram.

Repeated differential counts revealed eosinophils of 26%, 41%, and 25% respectively. All attempts to demonstrate trichinella spiralis larvae in the peripheral blood failed, as did attempts to demonstrate them in bone marrow and spinal fluid. A biopsy of the left deltoid muscle on the twelfth day, however, was reported to reveal several foci of inflammation containing the larvae.

The patient's hospital course was characterized by daily elevations of temperature to 101°, 103°, or 105°F., and she complained frequently of muscular aching. Medication consisted of aspirin, ten grains, four or five times daily. On the eighth hospital day the patient had a complete abortion.

On the thirteenth hospital day, the patient's muscular aching had decreased, and her daily spikes of temperature were less marked. She was discharged with instructions to restrict her activities, and to return in four days for a follow-up examination.

On return, her symptoms had subsided and she was afebrile. A trichinella skin test at that time was negative; however, five days later this was re-

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peated and was strongly positive within twenty minutes.

The patient was contacted recently, two and one-half months after her hospitalization, and stated that she was asymptomatic and performing her usual household duties.

LIFE CYCLE OF TRICHINELLA SPIRALIS AND ASSOCIATED CLINICAL FEATURES

A knowledge of the life cycle of trichinella spiralis is necessary for an understanding of the course of the disease and for the methods of treatment and of prevention. The cycle begins with the ingestion of uncooked or poorly cooked pork or pork products containing live encysted trichinella larvae. These are liberated by protein digestion, in the small intestine, and within two to four days mature, mate, and burrow deep into the mucosa. During this phase of the cycle the patient is prone to develop many symptoms referable to the gastro-intestinal tract, depending on the length of time the adult worms remain in the intestine. This, in turn, is thought[2] to depend on (a) the state of host immunity and (b) the heaviness of the infestation.

Usually within seven days the adult female has begun discharging larvae into the thoracic duct via the lacteals, and then into the general circulation. Within the four to six weeks of life, the female may discharge from 1,000 to 1,500 larvae. The male of the species dies and is excreted.

As trichinellae circulate in the blood, all tissues may be invaded including: serous cavities, skeletal musculature, heart, lungs, gallbladder, pancreas, small bowel, peritonsillar tissue, brain and cerebrospinal fluid. It is during this phase of the cycle that one observes periorbital edema, spiking temperature, and the various symptoms referable to the particular tissue involved.

Within ten days to three weeks the larvae concentrate within the skeletal muscle, encystment begins, and the symptoms are for the most part referable to the musculoskeletal system.

DIAGNOSIS

The diagnosis of trichinosis is usually not difficult, especially when a history of ingestion of raw or poorly cooked pork, followed by gastro-intestinal complaints, periorbital edema, fever, and muscular aching is elicited. However, with or without this rather typical history, the laboratory is most helpful in confirming the diagnosis.

Eosinophilia present in 88.7% of a recent series[3] of 250 cases, is the most constant finding. The eosinophils usually range from 25% to 40%, but may reach 90% within seven to fourteen days; however, it should be noted that there is no correlation between the percentage of eosinophils and the degree of infestation,[4] and other diseases causing significant eosinophilia, such as allergies, periarteritis nodosa, and other parasitic infestations and Hodgkin's disease should be excluded.

Muscle biopsies are diagnostic when uncoiled, unencysted, or recently encysted trichinae larvae are demonstrated. This is usually possible after the tenth day of infestation. Heaviest infestation is usually found near the tendinous portions of the diaphragm, gluteus, pectoral, deltoid, gastrocnemius, or intercostal muscles, in that order of frequency.

The intradermal skin test becomes positive between the second and third week of infestation, and is very useful as a bedside test because of the fact that positive reactions occur within fifteen to twenty minutes. False positive reactions do occur, however, in a few instances.

Complement fixation, precipitin, and flocculation tests may be helpful; however, these involve specialized procedures not often available. Occasionally larvae may be demonstrated in the peripheral blood, stools, or spinal fluid, and should be searched for when practicable.

PROGNOSIS

The prognosis is good in light isolated infestations; however, in epidemics, there may be a mortality of from 5% to 30%.[5] Death, when it occurs, is usually within four to six weeks from the onset, and is due to secondary pneumonia or myocardial failure. Some people have ascribed it to "toxemia."

TREATMENT

Treatment is non-specific and confined to supportive measures and control of symptoms. Supportive measures include maintenance of hydration and proper fluid balance, particularly during the stage of gastro-intestinal involvement, and the use of antibiotics and digitalis if necessary. Analgesics, though, may be the only medication necessary.

Recently,[6] however, ACTH has been used in the

treatment of trichinosis, with beneficial effects, thought to be non-specific in nature.

Prevention

The most frequent and important reservoir of human infestation is the hog, which has become infested with trichinellae from feeding on garbage containing uncooked pork scraps. Rats harbor the larvae, and thus may be another source of infestation in hogs.

Prevention of human trichinosis, then, can only be accomplished by public education to the necessity of thoroughly cooking or freezing pork. Freezing at minus 15°C. for twenty days or minus 18°C. for twenty-four hours will readily kill the larvae.[7]

Animal infestation can be reduced by cooking garbage used as feed, and by proper rodent control.

Discussion

The case presented represents the typical picture of trichinosis. Within a week following the ingestion of a product assumed to contain raw pork, the patient noticed symptoms of gastro-enteritis, characteristic of the stage of invasion of the intestinal mucosa by adult trichinellae. A few days later she noticed fever, periorbital edema, and generalized aching, characteristic of the stage of migration of the larvae in the blood. Spiking fever and musculo-skeletal symptoms continued for approximately one month after infestation, and gradually subsided, presumably as circulating larvae began encystment in the muscles.

Eosinophilia, up to 41%, was present during the third week, a muscle biopsy was positive during the fourth (Figure I), and a skin test became positive during the fifth week after infestation.

Treatment was entirely supportive, and the patient made an uneventful recovery within five weeks, except for having a complete abortion during the height of her illness. It is unfortunate that the fetus was not examined for the presence of trichinellae larvae; however, placental tissue examined, failed to reveal the presence of the larvae.

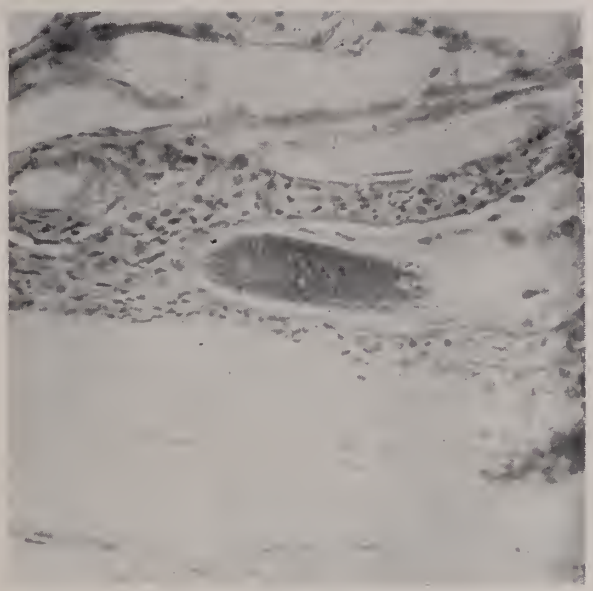


Fig. 1.—Recently encysted trichinella larva demonstrated in a biopsy of deltoid muscle.

Summary

A proved case of trichinosis is presented. A brief resumé of the clinical features, aids in diagnosis, treatment, and prevention is outlined and discussed.

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THE EFFECTS OF INSULIN HYPOGLYCEMIA ON THE DIABETIC HEART*

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The high incidence of heart disease in the diabetic population is a well known and a well documented fact. This was clearly shown in Dr. R. L. Bailey's excellent paper[1] several years ago in which he pointed out that in a series of five hundred unselected diabetic patients thirty-five per cent could be classified as having arteriosclerotic heart disease. Other series bear out this high incidence of heart disease in diabetes. In a study[2] at Western Reserve University of two hundred and fifty diabetic patients, fifty per cent had heart disease caused by coronary arteriosclerosis and hypertension, alone or combined. Blotner[3] found in seventy-five fatal cases of diabetes mellitus autopsied at Peter Bent Brigham Hospital forty-five per cent showed marked coronary vessel disease and ten per cent had died of myocardial infarction.

Thus in a disease in which heart disease is such a frequent complication, it is of interest as to what effect the treatment of the diabetes—namely, the use of insulin—has on the heart. In reviewing the literature concerning this subject one finds that many experimental and clinical studies have been made on the effects of insulin on the normal diabetic heart and on the heart of man and animal without diabetes. Although there appears to be a general concensus of opinion that the elderly diabetic with coronary disease should be treated with caution, a careful and detailed study of the effects of insulin on the heart in a large group of elderly diabetics is wanting. Therefore, in discussing this subject one must rely a great deal on what has been learned from its effects on the normal heart and the normal diabetic heart, and fill in with the impressions and case reports that have been given concerning the effects of insulin on the diseased diabetic heart. It is hoped that more studies will be made in the future concerning this subject.

There is good evidence that insulin has no deleterious effect on the normal diabetic heart. Cruickshank[4] has shown in the isolated heart that under hyperglycemic conditions insulin increases oxidation of sugar and the deposition of glycogen in heart muscle. During severe hypoglycemia the heart glycogen is used, but still falls only to normal. If hypoglycemia persists, the heart is able to carry on and insulin continues to protect the heart.

Insulin hypoglycemia does not cause important electrocardiographic changes in the normal heart, nor does repeated periods of insulin hypoglycemia produce persistent changes in the electrocardiograph. Root,[5] in his study of young diabetics, found changes in conduction time to be very rare and ventricular extrasystoles very infrequent. T-wave changes were found, but were of only slight degree. His studies were conducted when blood sugars were elevated and low, but not when the patients were in insulin shock. Goodrich[6] has found that the most frequent electrocardiographic change in hypoglycemia to be the lengthening of the electrical systole. Otherwise, he found no important electrocardiographic changes. Middleton and Oatway[7] found in addition to decrease in amplitude of T-waves in diabetics in insulin shock that there is a tendency for P-waves to be decreased also. They found that about half of their tracings showed an increase in the auriculo-ventricular conduction time. Of course, isolated cases of various arrhythmias and perhaps sudden death can be cited in such patients, but, by and large, these are few in patients with normal hearts and should not be considered as occurring often enough to deny close control to diabetic patients without heart disease. The staying off of coronary sclerosis and the prolongation of life in the diabetic by close control with insulin certainly offsets any fear of injury that insulin may cause the normal diabetic heart.

On the other hand, the diabetic patient who has developed coronary disease should not be subjected to hypoglycemia and it is felt by many that it is safer to allow them to remain slightly hyperglycemic as insulin angina and myocardial infarction frequently occur following shifts to hypoglycemia.

The cause of insulin angina has not been explained clearly, although the electrocardiographic changes during hypoglycemia have recently been

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given a reasonable explanation by Parrish and his co-workers[8]. They have postulated that the electrocardiographic changes in hypoglycemia are due to intracellular shifts of the potassium ion secondary to the effect of insulin and to epinephrine liberation. In their study of fourteen patients in whom they had induced hypoglycemia by insulin, all showed electrocardiographic changes and a fall in serum potassium levels. Electrocardiographic changes consisted of flattening of T-waves, ST segment depressions, and prolongation of Q - T intervals. The serum potassium fell an average of 1.89 meq. per liter. Those patients who received potassium chloride had a reversion of the T-waves toward normal. Priscoline was also given some of these patients and they also had a reversion of the T-waves toward normal. It was apparent in their study that the electrocardiographic changes were not necessarily due to hypoglycemia, as some of the electrocardiographic changes reverted to normal while the blood sugar level was still low. In those patients whose electrocardiograms reverted to normal with priscoline it would seem that by blocking the epinephrine with a return of the electrocardiogram to normal that the epinephrine is also a cause of the changes.

Insulin has been proven not to cause coronary constriction *per se.* On the contrary, studies[9] reveal that it causes coronary dilatation. However, some feel that the electrocardiographic changes and the clinical anginal symptoms following insulin are actually due to myocardial ischemia caused in an indirect way. It is thought that the low blood sugar causes an outpouring of epinephrine and this by causing an increased heart rate and output, the extra work brings about the myocardial ischemia. Cannon, McIver and Bliss[10] have shown in cats that if the adrenals are removed insulin hypoglycemia does not cause tachycardia. They feel that the pallor, tachycardia, pupillary dilatation and symptoms of insulin shock may be due to sympathetic stimulation. Other workers[11] have found that the circulatory changes found with insulin hypoglycemia which resemble epinephrine like signs do not occur if prostigmine has been administered. This also seems to bear out that some of the changes are due to epinephrine. It is interesting to note along this line that Harrison[12] has found in many individuals who supposedly had cardiac neuroses with symptoms of palpatation, weakness, pain in the chest, and dizziness, often have relative hypoglycemia. These are symptoms associated with the injection of epinephrine and may bear out Cannon's theory. Greene[13] in England has also made a similar report of patients who had been diagnosed as cardiac neurotics and were found to have hypoglycemia.

Soskin and Katz[14] believe that insulin causes electrocardiographic changes that are due in part to insulin *per se,* since these changes are only partially reversed by carbohydrate administration and are then not all due to the hypoglycemia. This has been borne out by the study of Parrish which has already been mentioned.

Messinger[15] has made a rather interesting study. X-rays made during and after hypoglycemic shock treatment revealed the aortic bulb and ascending aorta to be widened. This certainly might be important in causing cardiac pain as these changes occur to such a degree that signs of aortic insufficiency developed. These changes were reversible in his patients and were considered physiological changes rather than pathological.

There seems to be a variance of opinion concerning the effects of insulin on the blood pressure. Goodrich[6] found the blood pressure increased in 84% of his non-diabetic patients with insulin shock, averaging a rise of 23 mm. systolic.

Middleton, in his study of diabetic patients with insulin shock, found that the systolic blood pressure of sixty per cent of his cases fell, and seven per cent of the diastolic readings. Some of the cases of myocardial infarction which occur in elderly diabetics with insulin hypoglycemia may well be due to the fall in blood pressure with resulting coronary insufficiency.

Whatever may be the mechanism causing cardiac pain and myocardial infarcation in elderly diabetic patients receiving insulin, it certainly does occur, as has been shown by various reports. Gignon[16] as early as 1923 reported a case in which the patient died after three doses of insulin. Turner[17] in 1930 and Modern[18] in 1931 pointed out that insulin could cause cardiac pain. There are many other such reports, but, as has been stated, they are mostly isolated case histories and many of the other writers in warning against the use of insulin in elderly diabetics are impressions and are not detailed statistical

reports. Goskin[19] felt that insulin was responsible for a number of cardiac deaths in diabetes. In his study of diabetics with evidence of coronary sclerosis or angina whose blood sugar levels were kept at a low normal level every case developed a fall in blood pressure, a rapid heart, irregularity, or paroxysmal tachycardia. The electrocardiograms usually showed an intraventicular block. On these patients intravenous glucose usually reversed these changes. He postulated that patients with arteriosclerotic heart disease required higher blood sugar levels than others. Blotner[3] gives a history of three diabetics who developed myocardial infarction which he thought resulted from insulin.

Liebow[2] recently pointed out that over-dosage of insulin may result in cardiac complications. He cited hypoglycemia as causing angina pectoris, myocardial infarction, congestive heart failure, the development of abnormal heart murmurs, and an increase in heart size. He concluded that "insulin reactions are associated with cardiac complications particularly in the older age group. Complete aglycosuric control of elderly diabetics by the use of insulin is not desirable." Duncan[20] in his book also feels the same concerning close control of the elderly diabetic. Marble,[21] however, feels that, with careful control, these patients can be kept free of glycosuria.

Smith[22] has pointed out that sudden changes in the blood sugar levels are harmful in arteriosclerotic diabetics. He cites an example of insulin angina when the blood sugar became elevated or when reduced. However, he felt that it was better to leave these patients in hyperglycemia.

Thus, it can be generally stated, in treating diabetic patients, first, that young diabetics should be controlled closely with insulin, as evidence points to no serious myocardial effects. Second, that those diabetics who do have coronary disease already present should not be allowed sudden changes in blood sugar levels, especially toward hypoglycemia.

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PUBLIC HEALTH

Mack I. Shanholtz, M.D.
State Health Commissioner of Virginia

Influenza

This year, as last, Virginia has experienced an epidemic of influenza-like infection that has been widespread over the State. Based on reports from the National Office of Vital Statistics, it is evident that the Virginia experience is part of a widespread prevalence over the United States, particularly the Eastern part. Confirmation of diagnosis of A-Prime influenza by virus isolations or serologic tests have been made in persons living or stationed in twelve Central States and four along the Eastern Seaboard.

The typical clinical picture as given by attending physicians is that of sudden onset with headache, usually frontal, and generalized body aches. There may be sore throat and usually non-productive cough. In uncomplicated cases, the respiratory symptoms are reported to be minimal. It has been pointed out that there may be two temperature patterns. After a sudden onset with high temperature, the course is usually 2-3 days; while with low fever at onset, the course is usually longer.

Although gastro-intestinal symptoms have occurred in some cases, they have not been the rule. Following a drop in temperature, most victims of the disease have felt profoundly exhausted. There has been no significant rise in the number of deaths from influenza and pneumonia.

According to reports from physicians, the antibiotics appear to be of little value at the time of onset. When the course is prolonged or a relapse has occurred, some physicians feel that the antibiotics are of value in preventing or lessening the severity of complications.

Each year at the season of high incidence of influenza-like infections, physicians have been alert to the possibility that the country might be in for another pandemic of influenza similar to that of 1918. In the comparatively mild epidemics of recent years various strains of the influenza virus have been implicated as causative factors.

Some of the suggested reasons for the mildness of recent epidemics are:

1. The possible development of a degree of population immunity by repeated contact with the infective agent
2. Milder strains of the virus
3. More effective treatment with the antibiotics.

Monthly Report of the Bureau of Communicable Disease Control

	January 1953	January 1952
Brucellosis	6	1
Diarrhea and Dysentery	201	405
Diphtheria	20	10
Hepatitis	244	55
Measles	280	944
Meningitis (Meningococcic)	29	19
Poliomyelitis	5	4
Rocky Mt. Spotted Fever	0	1
Scarlet fever	121	81
Tularemia	8	12
Typhoid and Paratyphoid	7	3
Rabies in Animals	50	48

AMA Conference on Special Health Services in Industry.

Current trends in direct service plans (health services in industry provided through salaried or panel physicians) . . . ways and means of maintaining high standards of medical service directly to certain groups of industrial workers . . . were aired at an informal conference on Direct Service Plans, by a joint committee of the AMA's Council on Medical Service and the Council on Industrial Health in January during the Annual Congress on Industrial Health.

Viewpoints of labor, management and the medical profession were expressed as more than 50 representatives of plans sponsored by labor and industry sat down with representatives of state and county medical societies. Many suggestions regarding future developments in programs designed to render medical care through voluntary methods were presented for study and future discussion.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals

A Statistical Story of the Manic-Depressive Psychoses.*

Individual statistical studies of various diagnoses of mental diseases indicate that each has its own story. Some types remain fairly static as to the incidence of the disease and others vary, affected largely by situations. The story of the manic-depressive psychoses is a varying one.

The general trend of the number of admissions, those remaining in hospital and the rate to general population has been downward. There have been slight increases, which have coincided with changes in economic, war conditions, etc.

In 1943 those diagnosed as manic-depressive psychoses constituted 17.8% of all first admissions. In 1951 this had dropped to 7.2%. The readmissions followed almost the same pattern as to trend, but with a larger percentage of the readmissions being diagnosed as manic-depressive psychoses. The high point was in 1943 with 34.9% as compared with 18.8% in 1951 at the close of the period. However, the low point for this 12 year period was in 1949 with 17.7%.

The number of first admissions diagnosed as manic-depressive psychoses ranged from 347 in 1942 to 130 in 1951 and readmissions from 243 in 1942 to 206 in 1949, closing the 12 year period with 212 in 1951.

The number of manic-depressive psychoses resident in hospital diminished gradually for the 12 year period from 2,408 in 1940 to 1,789 in 1951. The percentage of this disease to all residents was 26.3% in 1940 with a gradual decline to 18.0% in 1951. This was a reduction of 31.6% for this particular disease.

The following chart gives a graphic picture of the number of admissions and resident patients during the 12 year period of 1940 through 1951.

The ratio of first admissions, diagnosed as manic-depressive psychoses, to general population reduced at a much greater rate than the actual number. The high point was in 1942 with 13.0 per 100,000 of general population and in 1951 the ratio was 3.9. This is a large decrease in the incidence of this type of mental disorder. Those resident in hospital

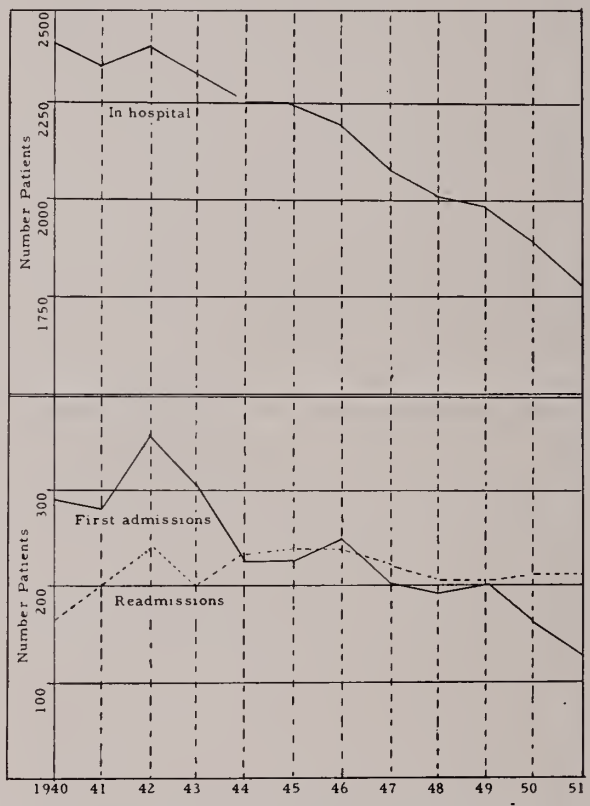


Chart No. 1. Number first and readmissions remaining in hospital for years 1940 thru 1951 of manic-depressive psychoses

showed a similar trend from 89.4 per 100,000 of general population in 1942 to 54.7 in 1951. This is a reduction of 38.8%.

In a special study in 1950 of the number of patients with manic-depressive psychoses released from the hospital within a year of their admission date, 74.6% of the first admissions had been released and 70.7% of the readmissions. The deaths were 4.4% and 3.9% respectively. Thus only 21.0% of the first admissions and 25.4% of the readmissions were still in hospital at the end of the year from their date of admission.

A similar study was made for a six months period for those admitted in the fiscal year of 1951. At

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

the end of the six months from the date of admissions, 64.9% of the first admissions had been released and 52.9% of the readmissions. Deaths were 6.1% and 4.2% respectively. This strongly suggests that a more intensive effort during the first six months would pay dividends by way of reduced hospital stay. The following chart shows this graphically.

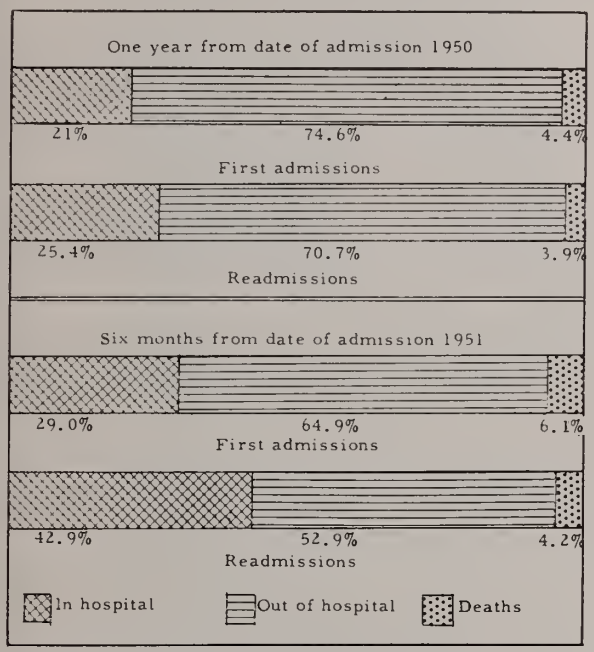


Chart No. 2. Status of First Admissions and Readmissions to State Hospitals diagnosed as manic-depressive psychoses one year from date of admission for 1950 and six months from date of admission for 1951

The average age of admission for the manic-depressive group for the 12 year period was 37.8 years and the readmissions 47.3 years. The average age of discharges was 43.1 years and deaths 52.9 years.

For the year ending June 30, 1950, of those remaining in hospital diagnosed as manic-depressive psychoses, 32.8% of the first and 15.4% of the readmissions had been on the records 20 years or longer. This is again strongly suggestive that early intensive treatment would prevent many from becoming chronic cases and eventually requiring not much more than custodial care.

Even though the manic-depressive problem has been a decreasing one, especially for the past 10 years, they require an intensive treatment before release. The recovery rate is high, but the possibility of recurrence of this type of mental disorder is also high when the stress becomes great.

From past records the economic situation has a large part to play in the rate of admissions of manic-depressive psychoses. Therefore, it is difficult to show the trend to plan for hospitalization of this type of disease without also taking into consideration the economic trends. Of course, the increase in general population will always have some effect on the number of actual admissions even if the rate to population does not increase.

The Richmond-Henrico-Chesterfield Chapters of the American National Red Cross helped 6,361 servicemen, veterans or their dependents solve personal problems caused by their military service during the past year.

Free Red Cross home nursing or first aid training was completed by 4,726 Richmond area citizens in 1952. Civil defense officials urge at least one member of each family to become trained in first aid—a necessary skill in time of disaster.

More than 12,000 citizens of the Richmond area gave some of their time and skill as volunteers through the Richmond, Henrico or Chesterfield Red Cross Chapters, to help their fellow citizens during the past year.

Blood donors of Richmond-Henrico-Chesterfield Red Cross Chapters rolled up their sleeves and gave 7,315 pints of blood in the past year to help save the lives of many wounded servicemen in Korea.

A goal of $331,445 has been set for the Richmond-Henrico-Chesterfield Red Cross campaign March 5-24.



Public Relations Conference Luncheon

THE MEDICAL SOCIETY OF VIRGINIA

Annual Public Relations Conference

The Annual Public Relations Conference of The Medical Society of Virginia was held on Thursday, January 29, 1953, at the Hotel Roanoke. A gathering of fifty, including representatives of fifteen component societies, was on hand to participate in the work-shop type program. Six PR projects were offered for the consideration of those attending, with the hope that they might be sponsored by the component societies.

Dr. James L. Hamner, President of the Society, opened the Conference with a word of welcome, and then introduced the presiding officer, Dr. John T. T. Hundley.

In presenting the 1953 Public Relations program of The Medical Society of Virginia, Dr. James P. King, PR Chairman, stated that the medical profession is becoming increasingly PR minded and no longer is on the defensive. Dr. King went on to outline the objectives for the year, and placed special emphasis upon the six projects on the Conference program.

The success story of the West Virginia State Medical Association in the field of Press-Radio Relations was told by Dr. Frank J. Holroyd, member of the West Virginia Council, and a pioneer in PR work in that state. Dr. Holroyd pointed out that things were not always so good in West Virginia, and the necessity of getting the physician's story told brought about dinner meetings with representatives of the press and radio.

The result was the adoption of a code of ethics and cooperation, which was approved by the State Press Association and the State Radio Association. The code listed the types of information available, treated editorial judgment, and arranged for medical societies and hospitals to designate spokesmen.

The part good public speaking plays in public relations was explained by Mr. Harry Green, President, Phillips Business College, Lynchburg. Mr. Green stated that there exists today no force which can compare with the live, human force. The impact of a message delivered personally is tremendous.

According to Mr. Green, some large corporations are spending millions training their employees in the art of speaking. The trend today is for as many people as possible to carry a message to the public —not leaving the task to just one or two. The better the participation—the better the public relations.

The value of sponsoring a health exhibit was emphasized by Mrs. Maynard R. Emlaw and Mrs. Hawes Campbell, members of the Woman's Auxiliary of the Richmond Academy of Medicine. Mrs. Emlaw described many of the exhibits available from A.M.A. and explained that the only real expense was the payment of shipping charges. Order blanks, she said, may be secured from the state office of The Medical Society of Virginia.

Mrs. Campbell described the work of the Auxiliary in making possible an obesity exhibit at the 1952 Atlantic Rural Exposition. She pointed out that such an exhibit is a wonderful project for the Auxiliary and explained how the work of the Auxiliary members made it a real success. Mrs. Campbell stressed the fact that besides being most worthwhile, sponsoring an exhibit can also be a lot of fun!

The Conference luncheon featured a talk by Mr. W. H. Radebaugh, PR Adviser, Textile Fibers Dept., E. I. du Pont de Nemours & Co., Wilmington, Delaware, concerning "The Importance of Public Relations." Mr. Radebaugh told of how the activities of very small groups had resulted in decisions of national importance, and he spoke strongly for sound, active PR programs on the local level.

A demonstration of the PR Course for Office Personnel, now being offered by the Public Relations Committee of the State Society, opened the afternoon session. Highlighting the demonstration was a playlet featuring Miss Marie Farris and Miss Helen Pugh of Lynchburg. The playlet depicted the right and wrong ways of talking with patients on the telephone, and emphasized the important role played by the physician's secretary in the conduct of his office activities.

Any component society can arrange to have the course presented in their locale simply by contacting the State Office. It was brought out that arranging



Mrs. Hawes Campbell explains the value of health exhibits. Others are (l to r) Dr. John T. T. Hundley, Mrs. Maynard R. Emlaw, Dr. Frank J. Holroyd, and Mr. Harry G. Green.



Talking It Over

for the course is an excellent project for the Woman's Auxiliary. The course is presented in two evenings, and involves no expense to those attending.

Tips on sponsoring a radio series were given by Mr. Alden Aaroe, well known announcer of Richmond station WRVA. Mr. Aaroe stressed the fact that there are over 105 million radio sets in use at the present time, and that radio will always flourish.

Radio stations, according to Mr. Aaroe, are always looking for good programs with listener appeal, but it must also be remembered that radio is a business and must show a profit. Therefore, anything presented as public service (time donated by station) must be especially good.

Mr. Aaroe mentioned the importance of programs directed to our youth, and recommended the "Dr. Tim, Detective" series for this purpose. Such a series is excellent when given good promotion and publicity. In this connection, he listed posters, newspaper notices, stuffers in statements, talks before school groups, etc.

The importance of "Working with Other Groups" was considered by the audience, which divided into three groups under Mr. M. A. Hubbard, Virginia Farm Bureau, Mr. J. Robert Anderson, State Department of Health, and Mr. Earl J. Shiflet, State Grange.

Each group had similar suggestions regarding the best way to work and cooperate with other groups, although Mr. Shiflet's report was accepted as the most practical. It was recommended that each group or profession first focus its attention on its particular problem before approaching other groups for assistance. Then, have a repesentative meet with representatives of the other group (or groups) and talk the matter over. Once a well thought out plan of presentation is agreed upon, the matter can be put before the public in the form of an educational program, etc.

In his summary, Dr. Holroyd had but one criticism of the PR program in Virginia, and that was the failure of the Society to make maximum use of the Auxiliary, which undoubtedly is one of the very best public relations mediums.

A CHECK LIST FOR YOUR PR WORKSHOP

(HOW MANY WILL YOUR SOCIETY CHECK IN '53)

CHECK HERE

1. *Work for better press-radio relationship*__ ☐
2. *Organize a speaker's bureau*_____ ☐
3. *Sponsor a health exhibit*_____ ☐
4. *Sponsor a PR course for office personnel* ☐
5. *Sponsor a radio series for better PR ("Dr. Tim, Detective")* _____ ☐
6. *Work with other groups*_____ ☐

When Writing Your Congressman, Observe These Ten Good Tips

From the Chamber of Commerce

1. Address him as Representative John Doe, or Senator John Doe.
2. Be Local; tell him how a National question affects *your* profession, *your* community.
3. Be Business-like; brief but not terse.
4. Be Specific; if you're *for* something, say so. If not, don't hedge.
5. Be Polite; Members of Congress deserve dignified treatment.
6. Re Reasonable; seek only possible things.
7. Be Yourself; use your own letterhead and letter style.
8. Request Action; your man is elected to *do* something.
9. Ask For An Answer; you've told him where you stand, now ask him where *he* stands.
10. Be Appreciative; thank him for good votes, compliment his better speeches, and praise his staff, too.

MISCELLANEOUS

Attention, General Practitioners and Internists

On April 9, 1953, there will be held in Washington, D. C., a conference of the Metropolitan Washington Tuberculosis Association ("Metropolitan Washington" is comprised of the District itself and contiguous counties in Maryland and Virginia). Discussion will center on "The Role of the Private Physician in Tuberculosis," a topic much neglected in most official and voluntary control programs.

The program is sponsored by the Virginia Chapter, Academy of General Practitioners. Attendance of general practitioners in all three metropolitan areas is urged by current and past presidents of the Virginia Academy, as well as by the president of The Medical Society of Virginia. An excellent opportunity will be afforded the profession to further strengthen good public relations, albeit also an occasion "to talk and be talked about" with reference to yet another facet of its responsibility in the community, a challenge physicians can ill afford to ignore these days and times. Following an introductory address, conferees will temporarily disperse into smaller selected groups (one composed of physicians *only*) to permit uninhibited expression of opinion. Conclusions reached by each session will later be summarized and submitted to the conference as a whole for general discussion.

The opening paper of the conference will be presented by Dr. William F. Wagner, Director of the Division of Tuberculosis Control, Virginia State Health Department, who will elaborate briefly upon the following contentions as a focal point for discussion.

10,000 active cases are thought to exist in Virginia alone, most of whom await identification in a presently comparatively innocuous stage. As it becomes generally known that diagnosis of active tuberculosis no longer implies categorical need for hospital care, either for the patient's sake or to protect others, the public will be even more eager to participate en masse in community x-ray surveys. Many private physicians will be called upon to help meet this community problem. They can't all be "consultants".

Completion of diagnostic studies for tuberculosis is neither mysterious nor complicated when carried out according to protocol.

Repeated visits to a doctor's office may be required for months—but this is no more than is regularly accorded the prenatal case, as her due!

It is no more necessary for a general practitioner to be able to interpret a chest x-ray with any degree of finality than it is for a chest specialist to personally perform his own sputum examinations, if he has a certified laboratory to do it for him.

It takes less skill to do a tuberculin test or collect a gastric lavage specimen than it does to deliver a baby.

By and large, treatment of run-of-the-mill tuberculosis is simple—the real problem is treating the people who have it, their friends and relatives. The Health Department can help in these fields.

Specific drug therapy must not be looked upon as a substitute for sanatorium care, where the latter is indicated. Unless a physician is prepared, *as of now,* to treat tuberculosis *without* the newer drugs, he should not attempt to treat tuberculosis by simple resort to them.

Some general practitioners will be surprised, it is hoped all will be pleased, to learn that not only diagnosis, but treatment of the average case of pulmonary tuberculosis, *as found today,* requires no more, *if as much,* training and skill, as they must apply daily in their management of many other types of disease.

There should be no class of patients who will pay better, take less of the doctor's time, give him greater personal and professional satisfaction, than should the average tuberculosis patient of the next 10 years, who will appreciate *relatively* inexpensive medical supervision by his own family physician whose function it is to make as nearly unlikely as possible his ever having to quit his job to go to a sanatorium.

Now, as never before, is the time for *all* physicians, particularly those whose practices are not *strictly* limited to fields other than chest, to enlist personally and professionally in this potential crusade for improved community health; equally important, physicians should, through regular channels, prepare to solicit real support from appropriating bodies who serve localities, and state, in order that

their own efforts may be implemented by such facilities and services as may be required to do a job, locally, and be supplemented by sufficient sanatorium beds to care for all in need of same.

Request for Reprints Concerning Stress and the Adaptive Hormones.

From current literature, we note that an ever increasing number of its articles deals with problems pertaining to re earch on "stress" and the so-called "adaptive hormones" (ACTH, STH, corticoids, adrenergic substances, etc.). In our opinion, the success of research in this complex and rapidly developing field largely depends upon the prompt availability and evaluation of relevant publications, a task for which we should like to solicit the assistance of your readers.

In 1950, our Institute has initiated the publication of a series of reference volumes entitled "Annual Reports on Stress" (Acta Medical Publishers, Montreal) in which the entire current world literature is surveyed every year (usually between 2000 and 4000 publications). Up to now, we had to compile the pertinent literature partly from medical periodicals, monographs, abstract journals and partly from reprints sent to us by the authors themselves. Of all these, reprints proved to be the best source of data which we felt deserved prompt attention in our annual reports. Hence, in the past, we have sent out several thousand individual reprint requests to authors of whom we knew that they are currently engaged in research on stress and allied topics. Even this procedure did not give us the wide coverage which would be desirable, because it is materially impossible to contact all these authors individually and it often takes too much time to get the requested reprints.

It is evident that in order to insure prompt inclusion of publications in the annual reports, these surveys must develop into a cooperative effort between the authors of original papers and the reviewers. This cooperation was greatly enhanced of late by the publication of announcements, in several medical journals, encouraging investigators interested in Stress Research to send us their reprints for this purpose as soon as they become available.

We should be grateful if your readers would advise of publication of articles on this subject to Hans Selye, M.D., Ph.D., D.Sc., F.R.S.(C), Professor and Director of the Institute of Experimental Medicine and Surgery, Montreal, Canada.

BOOKS

Thomas Jefferson: Scientist by EDWIN T. MARTIN. New York. Henry Schuman. 289 p. illustrated. Price $4.00.

In the references in the back of the book the author states that in this book he has used the term *science* to mean *all knowledge*. It is regrettable that this statement was not made in the first chapter so that the reader would read the book with a different standard. As it is, he gets a poor opinion of the science of the time and of Jefferson as a scientist. As a matter of fact, he was an encyclopedist rather than a scientist. All knowledge was his province rather than one particular field. His Notes on the State of Virginia, which is cited as a great scientific work, would scarcely be considered a book of science by today's standards. His interests ranged from paleontology to modern agriculture. He described and measured accurately a fossil with a claw 6½ inches long but diagnosed it incorrectly. He improved the plow and was awarded a gold medal from a French agricultural Society.

The most fascinating part of the work is the controversy between Jefferson and European scientists such as Buffon, DePauw, and Raynal over their errors about the effect of American climate on the fauna, especially the number of species and their size. Some 60 pages are taken up with this discussion.

M.P.R.

The Toxemias of Pregnancy. By WILLIAM J. DIECKMANN, S.B., M.D., Mary Campau Ryerson, Professor and Chairman of the Department of Obstetrics and Gynecology of the University of Chicago; Chief of Service of The Chicago Lying-in Hospital and Dispensary, etc. Second Edition. St. Louis, The C. V. Mosby Company. 1952. 710 pages with 85 text illustrations and 1 color plate. Cloth. Price $14.50.

This book is born of the author's knowledge and research on the toxemias of pregnancy. As he reviews the literature having to do with the physiology and pharmacodynamics of pregnancy in their relationship to preeclampsia, eclampsia, nephritis, and the edemas, his comments flow out of a wide clinical and laboratory experience.

It was to be hoped that the interval between his first edition in 1940 and this one would see the discovery of the etiology of the toxemias. Unfortunately such is not the case. This edition actually contains little fundamental knowledge not previously presented. However, it serves a most useful purpose if for no other reason than to review the literature on the toxemias of pregnancy published during the last ten years and to present a critical appraisal of it in the light of the author's personal experience.

The organization and arrangement of material of this edition is superior to that of the first one. The physico-chemical determinations in pregnancy are succinctly covered in 75 pages of Chapter IV. Here are discussed all of the important biological and biochemical changes in blood chemistry, blood and plasma volume, hemoconcentration and hemodilution, hemoglobin and hematocrit during pregnancy. Blood oxygen saturation, leukocytes, blood platelets and blood coagulation, the serum and plasma proteins, and the colloid osmatic and oncotic pressures, fibrinogen metabolism, the acid base balance, and the diffusible and nondiffusible ions, venous and tissue pressures, and finally the complex changes in body water are reviewed.

The chapter on obstetric treatment of eclampsia is one which should be close at hand to everyone practising obstetrics. It is an excellent clinical outline of proper management of eclampsia and the toxemias reduced to the simplest form without sacrifice of essentials. The various complications of eclampsia and preeclampsia, such as pulmonary edema, vascular collapse, and uremia, are presented in the most scholarly and practical manner.

The only criticism that might be leveled is the author's presumption that all of his readers are prepared to understand such statements as "the calculated intracellular water compartment as the difference between the total body water and the bromide space", or "he noticed that the rhythmic gradient was markedly flattened by an increase in the rate of the ileum". Occasionally a loose statement appears which might be challenged, such as "the avoidance of normal work during pregnancy is thus desirable as a means of preventing overwork of the heart".

Everyone who practices obstetrics should have this "toxemia bible". For the laboratory worker and clinician interested in research the book is invaluable as a reference source. The bibliography is exhaustive. W. B.

The Human Pelvis. By CARL C. FRANCIS, A.B., M.D., Assistant Professor of Anatomy, Department of Anatomy Western Reserve University, Cleveland, Ohio. St. Louis, The C. V. Mosby Company. 1952. 210 pages with 61 illustrations, including 3 in color. Cloth. Price $5.00.

If the other chapters are as reliable and comprehensive as Chapters 1, 3, 5, and 7 (and there is no reason to doubt that an author of the standing and experience of Dr. Francis would be consistently meticulous and thorough throughout) this book, *The Human Pelvis,* should be a welcome addition to the orthopedic literature. The author's knowledge of the subject and of the research done in the field is extensive. His experience as a teacher and a researcher is shown by the clarity of description and the coherence of individual sections of the book and their relationship to each other. The illustrations are excellent and complete and it is a pleasure to report ability to read the identification of the structures shown. In the table presenting the segments of the cord which innervate the striated muscles of the pelvic region the author is not in complete accord with some of the anatomists and neuroanatomists. However, this need not be considered a serious deviation since there are wide variations in the combinations of spinal nerve fibers within the plexuses and the muscle fibers which they innervate.

The book as a whole, both in arrangement and in format, is excellent. E. D.

EDITORIAL

William Baynham (1749-1814)

JUST above Loretto in Essex County, almost opposite the fork in the road to Hustle, stood the home of Dr. William Baynham, a country surgeon who, next to Philip Syng Physick, did more for the advancement of surgery than any one in the early history of America. He probably had the best medical education of anyone of his time.

William Baynham was the son of Dr. John Baynham of Essex County. His schooling began at Donald Robertson's famous boarding school on the Mattaponi River in King and Queen County. Among his schoolmates were James Madison, afterwards President of the U.S., Johnny Taylor, Edmund Pendleton "Jr.", Henry and James Innes, John Penn, two Lomax boys, and a son of John Hoomes. He studied medicine under his father and was apprenticed to Dr. Thomas Walker for five years. He then went to England for a stay of sixteen years.

In 1769 at the age of twenty, he entered St. Thomas' Hospital as a student. Here he became particularly interested in anatomy and won the respect and friendship of the professor, Joseph Else. In 1772 he was employed as prosector at Cambridge University and at the same time he practiced surgery in Margate in partnership with Mr. Slater. Concerning his work in the University, Charles Collignon, wrote Mr. Else as follows: "Sir—I beg leave to return you thanks for being instrumental in prevailing on Mr. Baynham to assist me, as his services have been entirely satisfactory, and his private behaviour very amiable and engaging. I am, sir, your very humble servant, Charles Collignon, Professor of Anatomy in the University of Cambridge." It was not long before Mr. Else wanted the young anatomist back in London with him. He wrote to Mr. Baynham: "Dear Sir—I am not well satisfied with Mr. Cline's manner of managing the dissections, and as he either will not, or cannot, make any considerable number of preparations—and as he is just married, I apprehend he will be less assiduous in future. There are several who are very expert in dissections, and would be willingly employed in his office, but there is none of whom I have so good an opinion as you. If, therefore, it could be contrived that you could be with me in the winter, for this purpose, to our mutual advantage, I should be glad. Hearing that you are shortly to be in town, I write to you, that if this matter is palatable to you, you may revolve it in your mind. I am, Sir, your most obedient servant. Joseph Else."

Arrangements were completed between the two which were very flattering to Baynham. "He was to superintend the anatomical theatre and dissecting room, prepare the bodies for his public demonstrations, make preparations for the museum, and to instruct his pupils in the art of dissecting, injecting, making anatomical preparations, &, with a salary of eighty and ninety pounds the first two years, and one hundred pounds a year for five succeeding years—at the expiration of which (having qualified himself in the interim for the office) Mr. Else was to relinquish to him the professor's chair, or to take him as joint professor, on equal terms, as he (Mr. Baynham) might choose." Unfortunately Mr. Else died of apoplexy five years later without making his plans known to the Board of Governors. In the election that followed Mr. Baynham lost to Mr. Cline by one vote. The museum which had been left him by Mr. Else he sold to Mr. Cline for 800 pounds. Some unfinished specimens in the museum he sold to Mr. Blizard, professor of anatomy at the London Hospital, for 100 guineas.

Baynham was regarded as the most skillful anatomist in Great Britain. He had

mastered the technic of fine injection of blood vessels. His injection of the female breast was for a great many years regarded as a masterpiece. He discovered the rete mucosum and with his injection method settled many clinical problems. When shown one of Baynham's injection specimens Dr. William Hunter, who had been his teacher, is said to have remarked, "What have we been doing so long that we have never observed this before?"

The failure to succeed Mr. Else upset Baynham's plans. The anatomist now turned surgeon and on June 7, 1781 he became a member of the Royal College of Surgeons. For the next four years he practiced on equal terms with Pott, Abernathy, and John Hunter. Why he decided to return home and become a country surgeon is not explained by Anderson, Thacher or Slaughter. Blanton suggests that it may have been due to the ill feeling towards Americans after the British surrender at Yorktown in 1781, but there is no evidence of such animosity against William Baynham. If that were a factor it was a long time in taking effect. The irresistible lure of Virginia is a more likely reason, or it may have been that he had become tired of a big city. Such things do happen. Some years ago a young obstetrician came to see us about a location in which to practice in the South. He had just finished a residency in the largest lying-in hospital in New York City and he brought with him excellent letters of recommendation. In addition he had been offered a partnership with an excellent obstetrician who was known to have the most lucrative private practice in the metropolis. When we showed surprise that he did not take such an offer, he replied that there was not enough money in the world to make him stay another year in New York.

So in 1785, when he was thirty-six years of age, William Baynham returned to the land of his birth. His ability was quickly recognized and patients came from far and near. He performed all the operations of his day—cataract, stone and ectopic pregnancy. His two most famous ones were reported in the second number of the first volume of the *Medical and Philosophical Journal and Review*, "An Account of two cases of Extra-Uterine Conception; in each of which the Fetus was extracted by an operation with success." These cases give such a good picture of eighteenth century surgery that we give the second case in Dr. Baynham's own words. He attributes his success to his keeping the operation entirely within the gestation sac.

"On the 24th day of January, 1799, I was sent for by Mrs. Washington, of Hayfield, in the county of Fairfax, Virginia, to a servant of her's, a young woman who had been with child, as she asserted, eighteen months; she had heard that I delivered a woman who had been with child for ten years, and was willing to submit to any operation that I might think necessary for her relief.

"She was taken in labour last March, as she thought; the midwife was sent for; but after being a few hours in great pain, the pains left her; she was at the same time taken with the menses, which continued with her for nine weeks, when they left her, and she has had them regularly every month until the last period. She grew less every day, yet kept tolerably well, though oftentimes in a great deal of pain. About six weeks ago she was taken worse than usual, and has been wearing away ever since, having no stomach to eat any thing, always complaining of so heavy a load at the bottom of her belly, that when she stands up she is obliged to hold it up with her hands. I found her labouring under a hectic fever; she was much emaciated, and confined to her bed.

"The abdominal tumour was equal and uniform, reaching half way from the umbilicus to the scrobiculus cordis, but more prominent in the umbilical region, where the head

of the fœtus was plainly to be distinguished by the hardness of the feel.

"I performed the operation on the 6th of February, 1799. I carefully made an incision through the integuments and muscles in the most prominent part of the tumor, thereby exposing the head of the child, and cautiously extended it upwards and downwards by the direction of the finger introduced into the cavity, so as to reach from a little above the umbilicus nearly to the pubes, on the left side, close to and in the direction of the linea alba; by which a sufficient opening was made to extract the child with ease. It was of the common size, and sound, except on the head, where a small portion of the scalp was in an incipient state of putrefaction. A large branch of the internal mammary artery was divided; but it was readily secured by the needle and ligature. No liquor amnii or other fluid was found in the cavity, which closely embraced the fœtus, and to which it was attached and glued, as it were, by a sort of cement of a greyish cast, of the nature of that kind of mucus which is found on the surface of the bodies of new-born infants; so that I was obliged to insinuate my hand, and with my fingers carefully separate the head, body, and arms from their attachments. The funis was small and short, connecting the child with the mother by three or four ramifications, inserted low down in the anterior part of the cavity in which it was lodged. The adhesion was so strong that I did not think it advisable to use any force to separate it; choosing rather to leave it to nature to dislodge it. Some pieces were thrown off at almost every dressing; but it was upwards of a fortnight before the string came away; some days after which I left the patient to the management of the family, as the wound was by that time healing, the cavity filling up and closing fast. The same dressings were used in this case as in the first. An anodyne was given immediately after the operation, repeated again that evening, and for three or four nights afterwards; it was then discontinued, and the Peruvian bark given three or four times a day. The bowels were carefully kept open from the second day after the operation, first by emollient injections, afterwards by the occasional use of an infusion of senna, manna, and salts. The diet was at first light and slender, but afterwards changed for one more generous and liberal. She soon got perfectly well, and is now alive and in good health. I believe she has not been again pregnant."

Dr. Baynham was a man of excellent judgment. A contemporary described him as being "not a ready man but a full and accurate one." His enunciation was indistinct and he spoke slowly. He seldom made a favorable impression on strangers. He had formed very rigid notions with respect to almost every social obligation and was scrupulously exact in adhering to them. Although his exterior was gloomy and austere, his heart was warm and generous. In him the poor ever found a friend and benefactor ready by the humane offices of his skill to assuage the pangs of bodily disease or by his beneficient liberality, which sometimes bordered even on the munificent, to relieve them from the equal pangs of poverty.

Little is known of the Baynham family in Mid-Tidewater, Virginia, today. It seems to have completely died out. Edmund Pendleton mentions Baynham in his will "to my physician five guineas to buy a rug or such other memorial."

Dr. Baynham married a daughter of the Rev. John Mathews. Their son, William Armistead Baynham, graduated in medicine but practiced only a few months. He became a celebrated Baptist preacher and did much good with his inherited fortune, besides giving Enon Church in Essex County its brick building.

Nothing remains to remind us of this great XIX century Virginia surgeon. One wonders if any of the magnificent anatomical preparations he made for London museums are still in existence.

SOCIETIES

The Alexandria Medical Society

Was host at a joint meeting of the Arlington, Fairfax and Alexandria Societies in Carter Hall, Alexandria Hospital, on January 15, at 8 p.m. Many problems of local interest were discussed. It was proposed and approved by all present that a joint committee be set up as a 10th Medical District coordinating group, for the purpose of liaison in handling conditions of interest to the entire area.

For several years the Alexandria Society has held an annual Clinic Day in the Spring. This year it will be sponsored jointly with the other societies in the 10th District. Many able speakers are invited and much worthwhile material is presented. It is hoped to have a large attendance.

Fourth District Medical Society.

At the annual meeting of this Society, Dr. Edith Miller of Petersburg was elected president; Dr. H. B. Showalter, Kenbridge, and Dr. Lee Scott Barksdale, Hopewell (Dr. Barksdale has since died) as vice-presidents; Dr. James A. Thweatt of Petersburg was re-elected secretary-treasurer; and Dr. Tyree Finch of Farmville was named chairman of the Steering Committee. Several counties turned in names of their delegates and alternates to The State Society meeting to be in Roanoke.

The Society has a Grievance Committee of the Petersburg Medical Faculty and is in process of setting up an Emergency Call Service in Petersburg.

The James River Medical Society

Held the election of officers at a meeting on January 14 at the Hotel William Frank at Fork Union. Those elected are: President, Dr. William S. Lloyd, Goochland; vice-president, Dr. A. C. Whitley, Palmyra; and secretary-treasurer, Dr. J. H. Yeatman, Fork Union.

Albemarle County Medical Society.

At the meeting of this Society on January 8, Dr. E. D. Davis of Crozet was elected president for the current year and Dr. Armistead P. Booker was re-elected secretary-treasurer. Dr. Byrd S. Leavell of the University of Virginia was named vice-president. Dr. J. G. Bruce, Jr., of Gordonsville, and the president, Dr. Davis, were named as representatives to attend the Rural Health Conference, sponsored by the Council on Rural Health of the American Medical Association, to be held in Roanoke, February 27-28. Dr. Vincent W. Archer of the University and Dr. Thomas S. Edwards of Charlottesville were named as the Society's representatives to the annual Public Relations Conference of the State Society to be held at Hotel Roanoke, January 29.

Warwick-Newport News Medical Society.

At the regular monthly meeting of this society at the Warwick Hotel, Newport News, on January 13, the speaker was Dr. Ed. Levy, clinical pathologist at the Norfolk General Hospital. His topic was "Recent Advances in Diagnosis and Management of the Blood Dyscrasias".

Dr. O. Watts Booth is president of this society, and Dr. O. Ward Anderson, Jr., secretary-treasurer.

Lynchburg Academy of Medicine.

At the regular monthly meeting of the Academy on January 12, at the Lynchburg General Hospital, Dr. J. H. Allan, professor of Orthopedics at the University of Virginia was the guest speaker, his subject being "Cervico-brachial Pain." Dr. P. G. Hundley was elected to honorary membership. The secretary named for 1953 is Dr. Frank N. Buck, and assistant secretary is Dr. Richard Hawkins. Both are of Lynchburg.

Richmond Academy of Medicine.

At the meeting on February 10, the Section on the History of Medicine was host to the general membership of the Academy, and the members and their wives were guests. The program included a paper on "Osler and Welch—Founders of Modern American Public Health" by Dr. Huntington Williams, Commissioner of Health from Baltimore, and "The Exodus of Southern Medical Students from Philadelphia in December 1859" by Dr. Thomas W. Murrell, Sr., of Richmond.

NEWS

Dr. H. C. Rucker, Virginia's Representative.

Dr. H. Cowles Rucker of Mattoax has been appointed by Governor Battle as Virginia's guest of honor at the Western Hemisphere Conference to be held in conjunction with the World Medical Association in Richmond, April 23-25. This meeting is to mark the diamond anniversary of the progress of medicine, and each State has been invited to designate some doctor now in practice who is approximately seventy-five years of age. Dr. Rucker will be just seventy-five and was several years ago honored by the people in his section for his services in that community.

Recently Governor Battle asked each of his fellow-Governors to appoint a physician who will reach the age of 75 during 1953 to visit Virginia for this meeting and tell of medical advances that have taken place during his lifetime. The invitation included the physician's wife.

At the Richmond conference, guests will be greeted by Dr. Louis H. Bauer, president of the American Medical Association, and by leaders of Latin American medical societies. Besides scientific sessions, there will be opportunities for visiting historic sites in Virginia, including the 18th century Williamsburg restoration. Expenses of the conference, and of guests and delegates, are covered through a grant by A. H. Robins Co., Inc., ethical pharmaceutical house founded in Richmond 75 years ago this year.

With the appointment of Dr. Rucker, 36 Governors have designated guests of honor to the coming conference.

Some Objectives for 1953

As recommended by Dr. Louis A. Bauer, President, A.M.A. are:

1. Work with rural communities to establish facilities for physicians, so that we shall have a better distribution of physicians.
2. See that good medical care for the indigent is available everywhere just as it is in some states.
3. Extend public health coverage to areas lacking it.
4. Develop plans for the care of the chronic invalid.
5. Expand our voluntary insurance program, not only to cover more persons, but to cover those over age 65 and those suffering from illness of long duration.
6. Clean our own house, by disciplining those physicians who are tarnishing the reputation of the whole profession by their unethical acts of overcharging, accepting kick-backs, and making commercial arrangements with pharmacists.
7. See that the public is protected so that they can always obtain the services of physicians.
8. Revitalize our county societies and make them leaders in their communities in all health matters.
9. Inculcate the newly trained physicians in the tradition and ethics of medicine.

The Virginia Radiological Society

Will hold its mid-year meeting on Friday and Saturday, April 24 and 25 at the Hotel Roanoke, Roanoke, Virginia. The meeting will begin with a film interpretation session Friday at 8 p.m. and will continue through Saturday afternoon. The feature of the meeting Saturday will be an address by Dr. Ernest H. Wood, Professor of Radiology, University of North Carolina, at a luncheon meeting. There will be a dinner Saturday evening.

TB Symposium for GP's in Saranac Lake Next Summer.

The Second Annual Tuberculosis Symposium for General Practitioners will be held in Saranac Lake, New York from July 13 through 17, 1953. It is approved by the American Academy of General Practice for 26 hours of formal credit for its members. The Symposium is sponsored by the Saranac Lake Medical Society and the Adirondack Counties Chapter of the New York State Academy of General Practice. The registration fee is $40 for A. A. G. P. members and $50 for non-members. Registration is limited to 100 doctors.

Many physicians who attended last year's symposium brought their families to Saranac Lake. So that families might have use of the car to enjoy the many recreational facilities of the Adirondack Mountains, free bus transportation was provided for physicians from Saranac Lake to the various meeting places. This practice will be followed again this

year. The 1953 Symposium has been planned to cover all important aspects of pulmonary tuberculosis from the General Practitioner's point of view.

Many of the sessions are informal panel discussions with ample opportunities for questions from the audience.

The Symposium will be held in various sanatoria and laboratories in the Saranac Lake area. On Monday, July 13th there will be a dinner for physicians attending the course, their families and the faculty. The speakers and panel members at the Tuberculosis Symposium will include physicians, surgeons and scientists from Saranac Lake and surrounding areas.

Complete information concerning this program can be obtained by writing: Richard P. Bellaire, M.D., Tuberculosis Symposium for General Practitioners, P. O. Box 707, Saranac Lake, New York.

"The Role of the Private Physician in Tuberculosis".

This topic is to be discussed on April 9, at a conference to be held in Washington. The program is prepared especially for doctors in the District of Columbia and adjoining counties in Virginia and Maryland. Attention is called to the program elaborated on page 178, in the article "Attention, General Practitioners and Internists".

Spring Congress in Ophthalmology, Otology and Allied Specialties.

The Gill Memorial Hospital of Roanoke announces its twenty-sixth Annual Spring Congress in Ophthalmology, Otology, Rhinology, Laryngology, Facio-maxillary Surgery, Bronchoscopy and Esophagoscopy to be held in that city April 6 to 11. The lectures will be given at the Patrick Henry Hotel and the operations and clinical demonstrations will be at the Gill Memorial Hospital. The faculty includes between twenty and twenty-five specialists of prominence from various parts of the United States, with one doctor from London, in addition to members of the hospital staff. There will be a number of commercial exhibits. Entertainment and trips to points of interest are to be enjoyed by the doctors and ladies accompanying them.

Appointments to Medical Services in Petersburg Hospital.

Eight physicians have been appointed chiefs of medical services in the Petersburg (Va.) General Hospital. These were appointed according to regulations of a joint commission for accreditation of hospitals and each chief will be responsible for his particular service. Those appointed are:

Dr. William S. Grizzard, obstetrics
Dr. Nelson M. Smith, general surgery
Dr. Wm. B. McIlwaine, III, pediatrics
Dr. Joseph P. Whittle, medicine
Dr. Meade Edmunds, surgical specialties
Dr. James H. Powell, general practice
Dr. Carroll A. Peabody, radiology
Dr. Joseph R. McCormick, pathology

The hospital was opened on January the 16th and has been practically filled ever since.

Medical Orientation Conferences, Second Army Area.

Following previous policy, the Medical Section, Second Army, is taking the Medical Orientation Conferences to the field so as not to infringe on the professional time of Reserve Medical Officers. They will be conducted on weekends with a starting time at 1:30 p.m. at

Cleveland	March 14
Cincinnati	March 15
Philadelphia	March 21
Pittsburgh	March 22
Richmond	March 28
Baltimore	March 29

Dr. Clyde H. Dougherty,

Hopewell, has been made medical advisor to the Hopewell Emergency Crew, succeeding Dr. Lee Scott Barksdale, deceased.

Dr. Forrest M. Swisher,

Of the Anderson Clinic, Arlington, has successfully passed the examination for certification by the American Board of Orthopedic Surgery and is now a diplomate of that Board.

Dr. S. G. Miller,

Formerly of Nelson County, Virginia, but who had practiced in Covington since 1940, has accepted a position on the staff of Grace Hospital Banner Elk, N.C., and entered upon his duties there on February 1.

Dr. William Meyer,

Herndon, has been elected illustrious potentate of Kena Temple, Ancient Arabic Order of the Nobles

of the Mystic Shrine of Northern Virginia, to serve for the year 1953.

Richmond Eye Hospital.

Dr. Rudolph C. Thomason has been re-elected president of the Board of Directors of this hospital. Other officers of the Board are Dr. B. Randolph Wellford and Dr. L. Benjamin Sheppard vice-presidents, and Mr. Nathan Bushnell, III as secretary-treasurer. Other Board members are: H. Harry Augustine, Dr. John Burke of Washington, George E. Haw, Dr. S. M. Cottrell, Dr. W. Wallace Gill, Dr. E. Trible Gatewood and Dr. Edwin D. Vaughan (new member). During the meeting the Board confirmed the elections of the Hospital's medical staff: Dr. Edwin Vaughan, chairman; Dr. Edgar Childrey, Jr., chairman-elect; Dr. Edmund LaPrade, recording secretary; and Mr. Bushnell corresponding secretary.

The American Congress of Physical Medicine and Rehabilitation

Will hold its annual scientific and clinical session August 31, September 1, 2, 3 and 4, 1953 inclusive, at the Palmer House, Chicago, Ill. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the executive offices, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue. Chicago 2, Illinois.

Mr. Don E. Gilliland,

Wyeth district sales manager of the St. Louis territory for the past five years, has been appointed division sales manager of that Company at Cleveland. He has been with Wyeth eight years, starting as a special representative in the biological and allergen promotion field.

The Postgraduate Course in Diseases of the Chest,

Sponsored by the American College of Chest Physicians, Pennsylvania Chapter and the Laennec Society of Philadelphia, will be presented at the Bellevue-Stratford Hotel, Philadelphia, March 23-27, 1953. This course will emphasize the recent developments in all aspects of the diagnosis and treatment of chest disease, and is open to all physicians; however, the number of registrants will be limited.

The tuition fee is $50 and applications will be accepted in the order in which they are received. This course has been approved for credits by the American Academy of General Practice. Applications should be sent to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Have You Contributed?

Referring to the National Fund for Medical Education, to which the American Medical Education Foundation of the A.M.A. is contributing, President Eisenhower, one of the founders of the Fund, recently said:

"Private support of higher education in America is fundamental to the democratic tradition. American business must assume a greater share of the operating costs of our institutions or they shall have no recourse but to Federal subsidy—a perilous alternative.

"The nation's 79 medical schools are the keystones of national health and prime factors in our ability to maintain production levels and man our armed services.

"They must not be prevented, because of financial stress, from meeting these responsibilities."

Remember these words, and get your contribution in to the American Medical Education Foundation.

Symposium on Stress.

The Division of Medical Sciences of the National Research Council and the Army Medical Service Graduate School, Walter Reed Army Medical Center, will sponsor jointly a Symposium on Stress on March 16-18, at the Sternberg Auditorium, of the Army Medical Service Graduate School, Washington, D.C.

The American Goiter Association

Will hold its 1953 meeting in the Drake Hotel, Chicago, May 7, 8 and 9. The program will consist of papers and discussions dealing with goiter and other diseases of the thyroid gland. Dr. Claude J. Hunt of Kansas City, Mo., is president. Other information may be obtained from Dr. George C. Shivers, corresponding secretary, 100 East Saint Vrain Street, Colorado Springs, Colorado.

For Sale to Settle an Estate.

Mobile X-Ray Department. Sacrificed at $1,500.00 1—G.E. Model D X-Ray Unit like new; 1—14x17 Cassette good par speed screens; 1—8x10 Cassette good par speed screens; 1—Portable Buck; 1—Fluorescent Illuminator; 1—Kodak safe light; 1—3-gal. three compartment Developing tank, and interval timer.

Also 1—Scanlan-Morris Battery Sterilizer consisting of: Autoclave 12x24; Water Sterilizers (Hot and cold) 5-gal. capacity; Instrument & Utensil Sterilizer 20x24; Electrically operated on 230 v. Power. Good condition—approximately twelve to fifteen years old. $500.00. Write Mrs. R. C. Fravel, Woodstock, Va.

OBITUARIES

Dr. Lee Scott Barksdale,

Prominent physician of Hopewell, died January 28 in a Richmond Hospital. He was a native of Petersburg and forty years of age. He graduated in medicine from the Medical College of Virginia in 1937, later taking up post-graduate work. He served as health officer in Hopewell in 1939 and after a time entered private practice. Dr. Barksdale served in the Navy Medical Corps for three and a half years and was discharged with the rank of lieutenant-commander. He was a member of The Medical Society of Virginia and interested in medical affairs of his section. He is survived by his wife and a son.

Dr. John Gibson Davis,

Oldest practicing physician of Roanoke, died February 1, at the age of 89. He was a graduate of the Medical College of Virginia in the class of 1885 and was a member of the first class to take the State Board of Medical Examiners. After practicing in West Point and at Boones Mill, Dr. Davis located in Roanoke in 1905 where he had since made his home. He had five sons, a granddaughter, a grandson and a brother who were all graduates of the Medical College of Virginia. He had been a member of The Medical Society of Virginia since 1914.

Dr. William Walker Robertson,

Danville, believed to be the oldest physician in that section, died January 19, at a local hospital, where he had been a patient for three years. He graduated from the former College of Physicians and Surgeons of Baltimore in 1890 and practiced for a number of years in Pittsylvania County before locating in Danville in 1921, where he practiced for some years before retiring. He had been a member of The Medical Society of Virginia since 1891. A son, Dr. E. B. Robertson of Danville, survives him.

Dr. John Marion Love.

The following resolutions were presented at the regular business meeting of the Norfolk County Medical Society January 5, 1953:

Dr. John M. Love was born in Petersburg, Virginia, and died at his home in Norfolk, December 6, 1952, 74 years of age, following a short illness. After his graduation from Hampden-Sydney College and Johns Hopkins University he spent considerable time studying in the European Clinics and post graduate work in eye pathology at Harvard University. He began his practice in Norfolk and later volunteered his services in World War I and was sent overseas with the United States Army. After his discharge from the Army he continued the practice of his specialty with the Veterans' Administration until he retired a few years ago because of age requirements.

He was a member of the American Medical Association, The Medical Society of Virginia, the Norfolk County Medical Society and the Tidewater Ophthalmological and Otolaryngological Society.

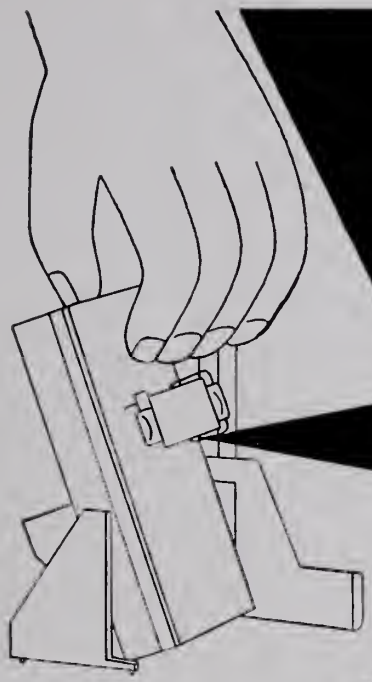
He will be remembered by the members of the profession for his high sense of honor, integrity and ethical standing.

We ask that this memorial be inscribed in the minutes of the Society and a copy sent to the Virginia Medical Monthly and to the family.

(Signed) J. WARREN WHITE, *Chairman*
W. L. HARRIS,
F. O. FAY.

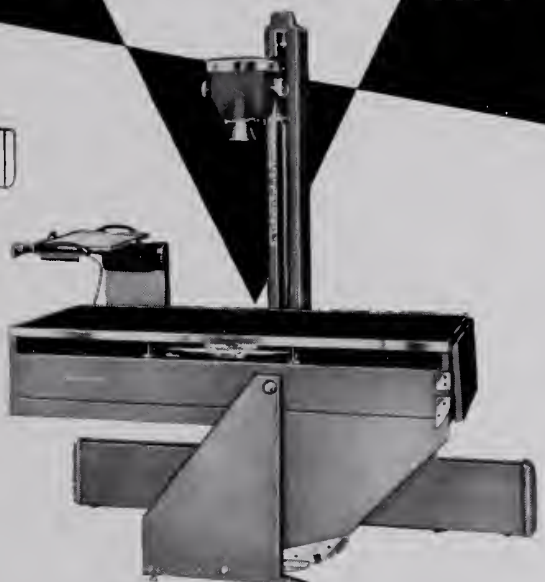
Dr. George Howard Salomonsky,

Retired Veterans Administration physician, died February 5 at a hospital in Roanoke. He was forty-nine years of age and a graduate from the Medical College of Virginia in 1931. He was chief of the professional section Roanoke regional office of the VA from March 1948 until his retirement last June. He was recently awarded the Citizens Salute of the Disabled American Veterans for his services to veterans. He is survived by his wife and two children.



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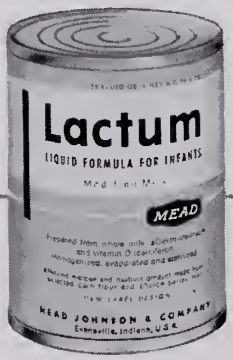
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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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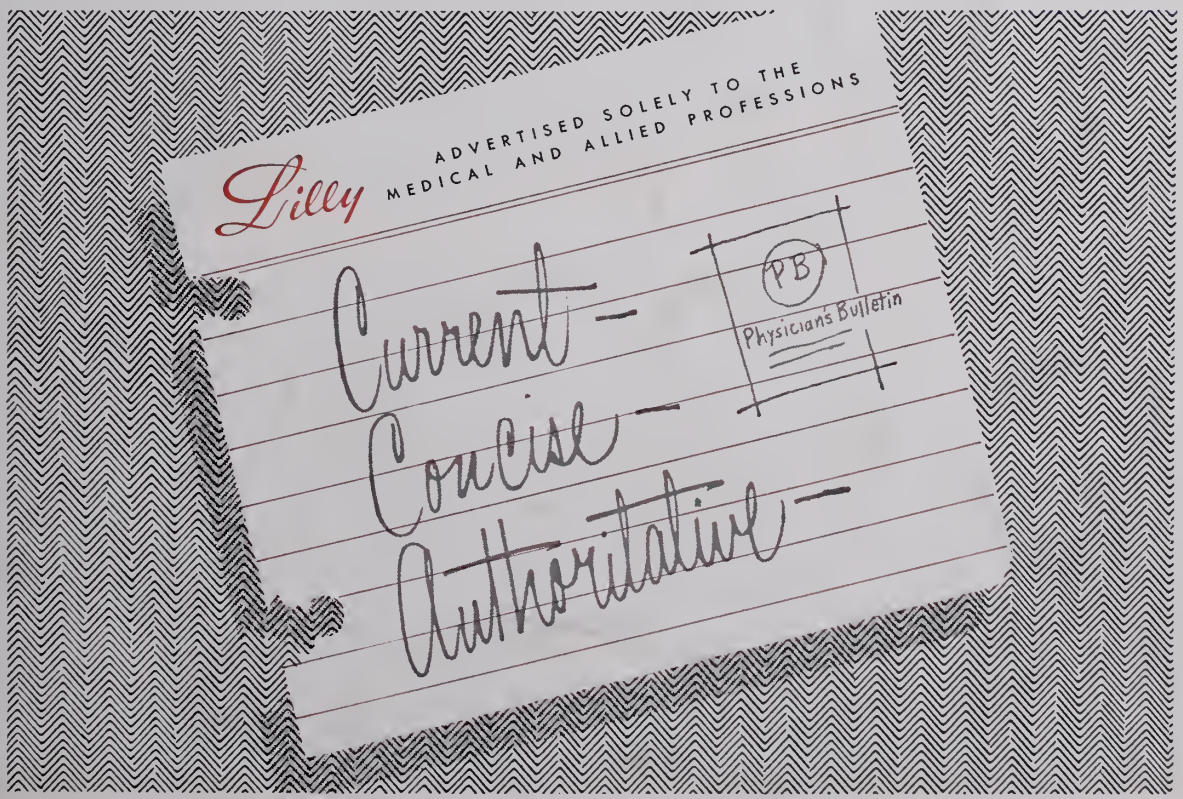
VIRGINIA MEDICAL MONTHLY

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unusually effective in infections of the gastrointestinal tract..



Chloromycetin is a notably effective, we

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RICHMOND, VA., APRIL, 1953

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GUEST EDITORIAL

The World Medical Association
First Western Hemisphere Conference

THE World Medical Association in collaboration with the Pan American Medical Association will hold its First Western Hemisphere Conference at Richmond, Virginia, April 22-25, 1953. It will offer the members of the United States Committee an opportunity to get together in this country with foreign representatives.

The theme of the meeting will be "75 Years of Medical Progress." There will be panel discussions on the outstanding advances in medicine during the last 75 years; and a discussion of differences and similarities in medical practice in Latin America and the United States. A representative from each Latin American country has been invited to attend.

Papers will be prepared by outstanding specialists and a general practitioner in all the fields of medicine. These papers will be published in one volume.

On Wednesday afternoon, April 22nd, there will be a program devoted to problems of the World Medical Association. All members of the United States Committee are invited.

On Thursday, April 23rd, there will be panel discussions and a general session summing up the panel discussions. This will be followed by a tour of Richmond, a reception and buffet supper.

On Friday, April 24th, there will be further panel discussions, a reception and a dinner meeting followed by reports of the panel discussions and entertainment. A guest speaker will make an address on a medical topic of international importance.

On Saturday, April 25th, there will be a tour to Williamsburg, a national shrine of the early days of the country.

All this is made possible by the courtesy of the A. H. Robins Company, which is underwriting the costs of the meeting.

An evening session will be devoted to problems of The World Medical Association, as they pertain to the component members in the Western Hemisphere. Members of the United States Committee are invited to attend this meeting.

The World Medical Association is an organization of national medical associations of 43 countries. It is devoted to advancing the standards of medical education and medical care on a world basis. It effects liaison among the physicians of the free world and it is the only organization which can speak for the practicing physician from the standpoint of free enterprise before other international organizations (not devoted to a particular phase of medical science). More and more problems in health and medicine are being discussed and decided on an international level. Without The World Medical Association, these problems will be considered only from the governmental viewpoint.

The other international organization particularly concerned with health and medicine is the World Health Organization which is a branch of the United Nations, representing governments in the field of health and medicine, more particularly public health, and is supported wholly by government funds.

The World Medical Association on the other hand represents the doctors of the world, is non-governmental and is supported by dues and contributions.

While no individual, but only national association memberships are possible in The World Medical Association, itself, individual memberships are available in the United States Committee, Inc. This is a non-profit corporation. Organizational and individual memberships may be had. All dues and contributions are exempt from income tax. The United States Committee has guaranteed to underwrite certain expenses of the Association, including support of the headquarters, publication of the quarterly Bulletin and some of the Council expenses. All members of the Committee are entitled to the Bulletin, all other publications of the Association, assistance in making medical tours in other countries, and may attend the General Assemblies of the Association as Observers.

The General Assembly meets annually, usually in a different country each year. It is a sort of House of Delegates. The interim governing body is the Council, composed of the President, the President-Elect, the Treasurer and ten elective members. The Council is comprised of men of different nationalities—the President from Greece, the President-Elect from Holland, the Treasurer from Switzerland and the elective members are as follows:

Two from the United States;

One each from Australia, Belgium, Cuba, France, India, Spain, Sweden and the United Kingdom.

The Council meets twice a year.

The Association has undertaken a number of studies, such as:

Undergradute Medical Education

Postgraduate Medical Education

Status of the Medical Profession

Hospitals

Availability of Certain Pharmaceuticals and Biologics

Social Security as it Affects Medical Practice

International Code of Medical Ethics, including a modified Hippocratic Oath

A Statement on the Medical Aspects of Social Security to Combat the Propositions of the International Labour Organization

In August 1953, the Association will sponsor the First World Conference on Medical Education, which will be held in London, immediately preceding the 7th General Assembly of the Association, which will be held at The Hague. This will be the first time such a conference has been held on a global basis. The scope of the Conference will be limited to Undergraduate Medical Education. The four main themes are:

Requirements for Entry into Medical Studies, including the Selection of Students,

The Aims and Content of the Medical Curriculum,

Teaching Methods and Techniques,

The Concepts and Place in the Curriculum of Preventive and Social Medicine.

The World Medical Association has shown that doctors the world over have similar problems, differing only in degree, and that they think alike about these problems, differing only as to detail.

The Association needs your support. Further information may be obtained from the Secretariate, 2 East 103rd Street, New York 29, New York.

LOUIS H. BAUER, M.D., *Secretary-General,*
The World Medical Association.

MEDULLARY NAILING IN FRACTURES*

Wm. Minor Deyerle, M.D., F.A.C.S.,
Richmond, Virginia

The principle of medullary fixation of fractures was first published by Nicolaysen in 1897[3]. The next published report was by Delbat in 1906[3]. Lambotte in 1910[1] reported a fractured clavicle he had treated by this method in 1907. All of these surgeons used thin nails. Hey Groves in 1916 first introduced the use of heavy nails that filled the medullary cavity.

The advent of sulfonamides and improvement in the metal revived interest, and in 1937[4] Rush began reporting the use of flexible rods as a means of fixation. In 1940[2] Kuntschner reported his first results. It was following these reports, with the advent of the antibiotics, that the procedure became more popular. In January 1951,[6] a committee of the American Academy of Orthopædic Surgeons reported the end results of 700 cases of medullary nailing of fractured femurs performed by orthopædic surgeons over the entire country. The results of this report were so excellent that the method is firmly established as an efficient method of treating femoral fractures.

This paper is based on 66 cases. The longest follow-up is 5 years. Medullary nailing is especially useful in femoral fractures from 2 inches below the lesser trochanter to 4 inches above the adductor tubercle. In this area it may be used as the only means of immobilization and, therefore, allow early exercise of the muscles and adjacent joints. Elimination of the need for casts, traction and other external immobilization has the following advantages:

1. It allows physiologic muscle tone to exert contact compression of the fractured fragments while position is maintained.
2. Solid union is more assured.
3. Early ambulation.
4. Shorter hospitalization.
5. Shorter disability.
6. Less permanent disability.
7. Psychologically another distinct advantage is observed. This is a feeling of well being experienced by these patients and, not uncommonly, by their orthopædic surgeons. This has been referred to as "Medullary Nail Euphoria".

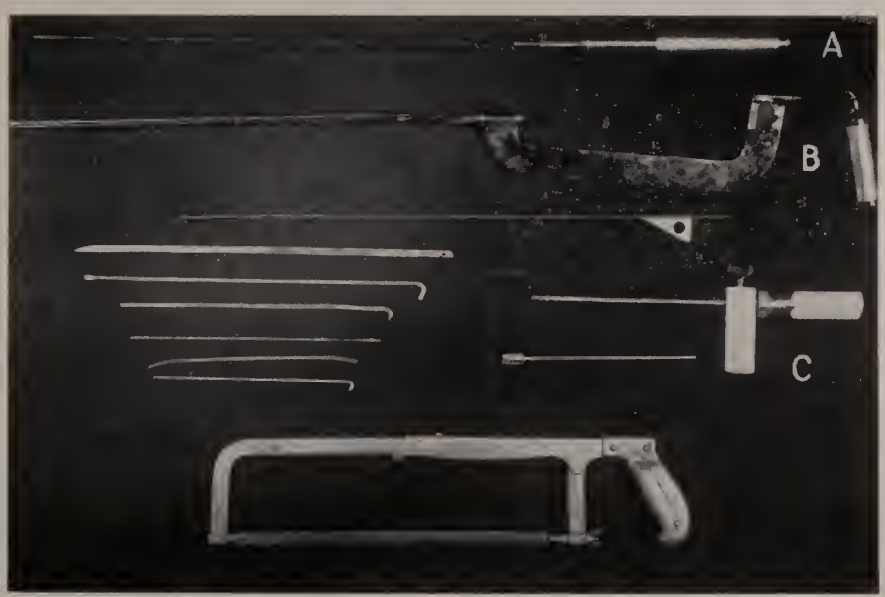


Fig. 1. From top to bottom are illustrated: A. Driver; B. Extractor; C. Reamer and hacksaw. On the left are the various types of nails

The technique of the operation requires especially made nails—Figure 1. It is necessary that these be of various sizes and that the proper size be selected.

*Read before the annual meeting of The Medical Society of Virginia, at Richmond, September 28—October 1, 1952.

It is also very important to have the special instruments for driving and extraction, as there are records of these nails having become lodged in the medullary cavity and defeat all efforts at extraction. The size of the nail should be determined prior to operation by x-ray and actual measurement. Measure the distance from the top of the greater trochanter to the middle of the patella and add 3 cm. to allow the end to protrude for extraction.

The patient is placed on his side with the injured extremity up—Figure 2. The leg is flexed on the body and is slightly adducted in order to make the top of the greater trochanter more accessible. The patient is held in this position with sand bags or, at times, they can be strapped. Operative exposure is obtained by 2 incisions. One about 4 inches long over the fracture site and the other approximately 2 inches long over the greater trochanter.



Fig. 2. Patient placed on the side with the injured leg up, hip and knee flexed.
A. Nail being driven.
B. Nail in place.

The diameter should always be checked at the time of operation by introducing the nail into the fractured fragments a short distance above and below the fracture. A snug fit is desirable, but most of the difficulties are encountered when the nail is too large. The average diameter is 10 mm., but do not hesitate to use 9 mm. if it is a safer fit. Occasionally it is necessary to ream out the fracture site to get rid of any obstruction. This is especially true in old fractures or nonunion. The nail is driven through a small opening in the top of the greater trochanter very slowly and cautiously until the end of the nail appears at the fracture site. In driving always be sure to use light strokes and check to be certain that the nail is not becoming lodged too tightly. It is better to occasionally use the extractor to determine if the nail can be extracted following every 2 to 3 strokes.

I have never had a nail become irretrievably lodged in a medullary cavity, but I still feel safer with the hack saw in the sterile setup. When the nail can be seen at the fracture site it is then reduced and held in place with a Lowman bone-holding clamp, or by manual means, and the nail driven across the fracture site and on down until the lower end of the nail is even with the adductor tubercle. In comminuted fractures the fragments may be held to the distal or proximal bone by screws or wire. Screws make a firmer fixation. It is not necessary, nor is it desirable, to screw the comminuted fragment to both of the larger fractured ends. Before closing, always get lateral and AP x-rays that include the knee joint. This will avoid driving a nail into the joint, which is a complication that has been reported. The distal end of the nail should be even with the adductor tubercle. It is ideal to have approximately 3/4 inch of the nail protruding above the greater trochanter to retract the nail, if necessary, later.

Case No. 1. My first femoral case was done



Fig. 3. Case No. 1. Non-union, 2 years duration; one previous bonegraft failed.

July, 1948. It was a nonunion of the femur of 2 years duration—Figure 3. The patient had had adequate immobilization in plaster for approximately 4 months, followed by a bonegraft. This was done approximately 9 months before I saw the patient. The bonegraft was also followed by adequate immobilization, but the fracture failed to unite. At the time of my examination there was marked atrophy of the leg with a stiff knee as a result of the continued immobilization in plaster. I had the brace maker prepare 2 stainless steel rods. The smaller one produced a snug fit and there was good immobilization. The fractured ends were step-cut and iliac bone was used to supplement the rigid fixation supplied by the rod. The patient was discharged at the end of 2 1/2 weeks on crutches, with no cast or brace. He had full weight bearing at 6 months—Figure 4—and the nail was removed under local anesthesia at 9 months. The patient at this time, is working as a heavy laborer in a barrel stave mill.

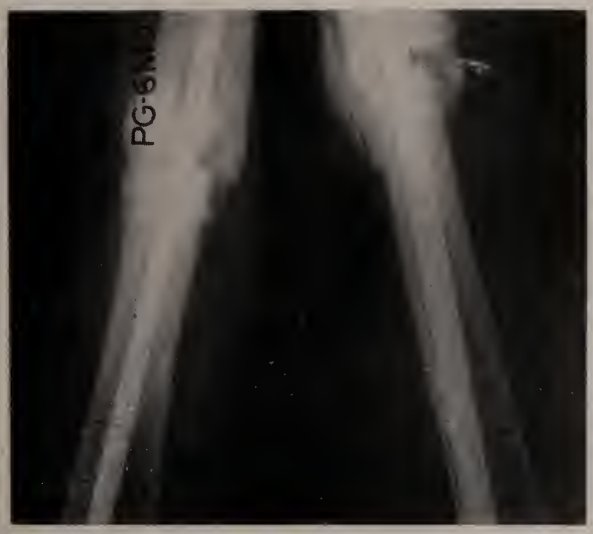


Fig. 4. Case No. 1. Solid union 6 months after medullary nailing and iliac bonegrafts.

I would like to point out that the use of medullary nails in femoral fixation has changed the requirements for a satisfactory bonegraft. It was, at one time, required that the bonegraft have rigidity and osteogenic properties. We can depend upon the use of the medullary pin for perfect rigidity and immobilization and use the osteogenic iliac bone in small grapenut size pieces, which are much more osteogenic than cortical bone.

Case No. 2. L. W., 28 year old, male. Bilateral femoral fracture. The left leg was comminuted and compounded posteriorly—Figure 5. Through a 12 inch wound from the gluteal folds to the popliteal space 8 inches of femur was protruding. The patient was treated for shock and the compound fracture debrided. The 5 inch comminuted fragment was held in place by 1 oblique screw and a medullary nail was put in place. This gave excellent immobilization. The wound was closed in layers. At the end of one week the right side was nailed. The compound wound healed kindly and the patient was discharged in a wheelchair 35 days after admission. He was started on crutches 1 month later. Both fractures were united in 163 days and Figure 6 shows the fractures at 7 months.



Fig. 5. Case No. 2. Bilateral fracture; left side severely compounded and comminuted.

Case No. 3. P. M., 15 year old, male. Fractured femur—Figure 7. Traction was applied initially



Fig. 6. Case No. 2. Right side, pin bent slightly.

and 3 manipulations under anesthesia failed to give a satisfactory reduction. A medullary nail was inserted and he was discharged on crutches 14 days later; 20 days after admission. Union was solid in 59 days—Figure 8. He returned to work with full knee motion in 60 days and no permanent disability. Figure 9 shows the fracture at 3 months.



Fig. 7. Case No. 3. Before Nailing.



Fig. 8. Case No. 3. 59 days, well healed, full weight bearing.

Following this the method was used on 32 femurs, 7 of which were old non-unions and 4 were compound fractures. All of these cases united except 7, which were done too recently for follow-up. The control series in both of these charts, Tables No. 1 and 2, is represented by the solid bar. These were fresh fractures treated by the conventional method of traction and casts[5].

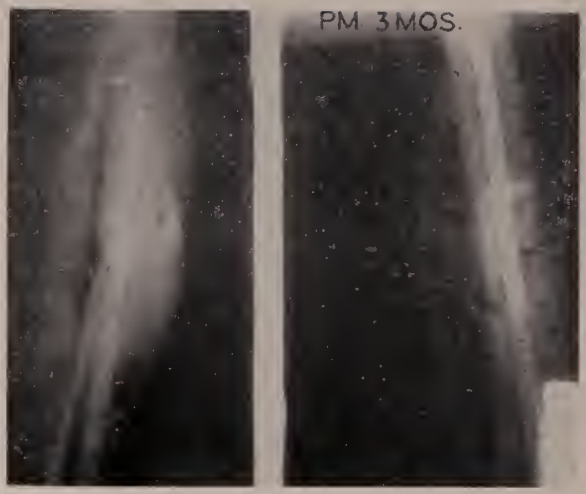


Fig. 9. Case No. 3. 3 months.

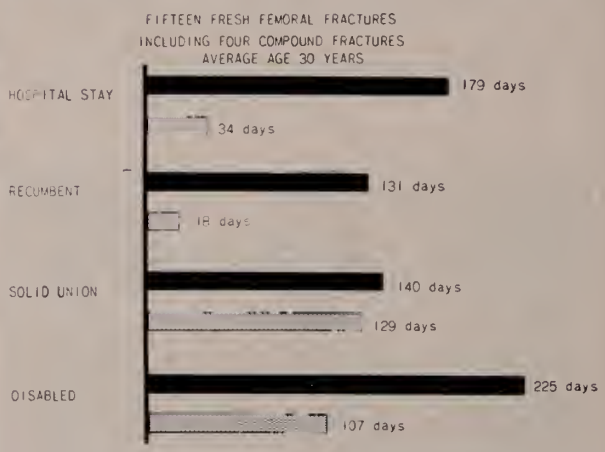


Table 1. The solid bar represents fresh femoral fractures treated by the conventional method of traction and casts. The gray bar represents fresh fractures treated by medullary nailing.

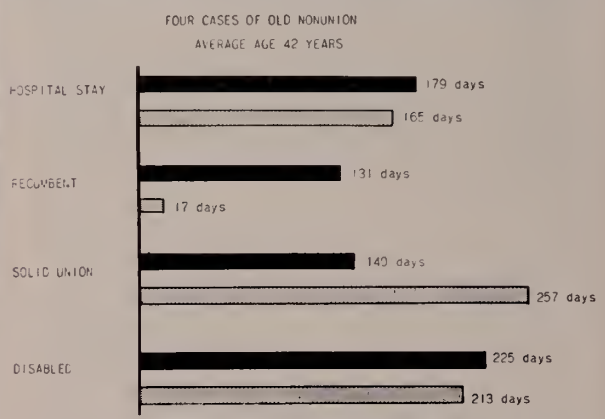


Table 2. The solid bar represents fresh femoral fractures treated by the conventional method of traction and casts compared with old established nonunions in femoral fractures shown in gray.

The first graft, Table No. 1, shows fresh fractures treated by medullary nailing compared to the conventional method. The second graft, Table No. 2,

shows a comparison between fresh fractures treated by the old method and old established nonunion cases treated by medullary nailing. It can be seen that medullary nailing in old established nonunion cases compares favorably with fresh fractures treated by the conventional method. Medullary nailing is a very useful method in many other areas of the body—Table No. 3.

Table No. 3. Total Cases Treated

Femurs		32
Fresh fractures	25	
Established Non-unions	7	
Humeral Fractures		6
Fresh fractures	5	
Established Non-unions	1	
Forearm Fractures		18
Fresh fractures	15	
Established Non-unions	3	
Clavicle Non-unions		3
Tibia 2 cases		2
Compound	1	
Old Non-union	1	
Knee Fusion 3 cases		3
Rotating Osteotomy of Radius		1
Femoral Shortening		1
		66

Case No. 4. H. Y., 24 year old, male. Compound fracture, both bones of forearm—Figure 10. The compound wound was debrided. A Steinman pin was inserted down the ulna and a Kirschner wire



Fig. 10. Case No. 4. Fracture both bones of forearm; ulna compounded.

inserted into the styloid of the radius. An incision about 2 inches long was used at the fracture site to reduce the fracture. The cast was removed and he returned to work in 3 months—Figure 11. The pins were removed 1 month later and he had almost complete motion, lacking 15 degrees of rotation.

Case No. 5. F. A., 32 year old, female. Osteomyelitis in right humerus at the age of 5. As a



Fig. 11. Case No. 4. 3 months with pins; 7 months pins out.

result the middle third of the humerus was missing—Figure 12A. A fibula graft with iliac chips was step-cut and held in place by a medullary nail with no fixation other than a sling. The top portion united but after 8 months the bottom junction was freshened up, iliac chips added and the step-cut ends held together by a wire suture—Figure 12b. No external immobilization was used. This united and the pin was removed 9 months later—Figure 13. The patient has excellent function and is working as a hair-dresser. Elbow motion is good; shoulder motion 50% and still improving. Her hand has normal motion and power.

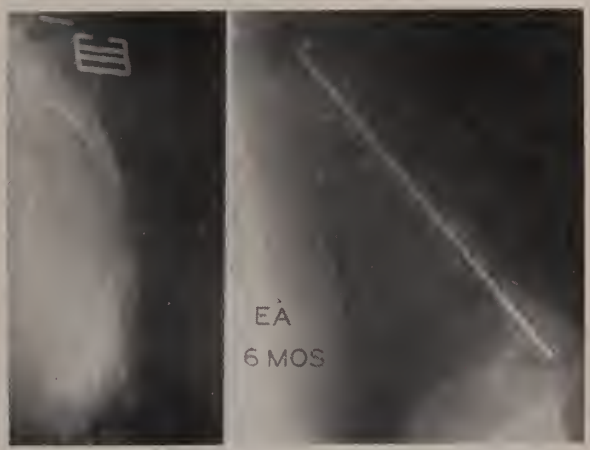


Fig. 12. Case No. 5. a. Absent middle 1/3 of humerus. b. Pin in place after bone graft.

Case No. 6. L. M., 30 year old, male. Severe compound, comminuted fracture upper third of humerus with radial nerve involvement—Figure 14. Wound debrided and sutured. Side arm traction applied. 2 weeks later a medullary nail was placed



Fig. 13. Case No. 5. 9 months. Solid bone.

across the fracture and iliac bone added. The nerve was sutured at this time. External immobilization was used. This united in 2 months—Figure 15. Tendon transplants were done for the wrist drop. He now has a very useful arm with fair elbow and shoulder motion.



Fig. 14. Case No. 6. Compound comminuted fracture.

Case No. 7. R. J., 47 year old, male. Charcot joint, disabling 5 years because of instability—Fig-



Fig. 15. Case No. 6. Good early union. Screws used to hold comminuted fracture in place.



Fig. 16. Case No. 7. Charcot knee.

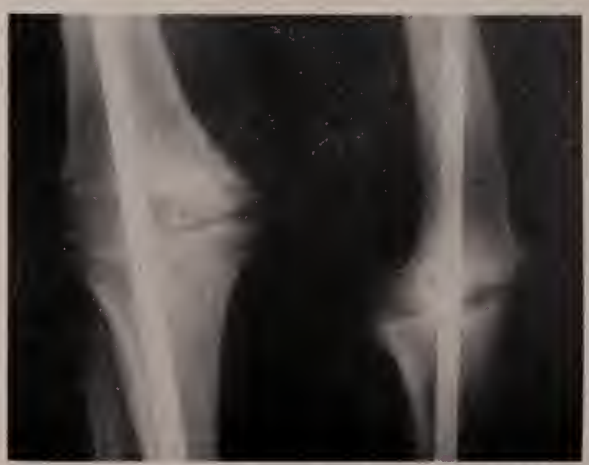


Fig. 17. Case No. 7. Solid union; 6 months.

ure 16. A knee fusion was done using a medullary nail and a cylinder cast. The cast was worn 6 months, but he was on crutches all except 2 weeks of this time. It was united solidly at this time—Figure 17. He works daily at heavy labor.

All of these cases united promptly except one. This was a fracture of the ulna and the head of the radius that required removal. The ulna was treated by medullary nailing. Although the fracture was not united, the pin was left in place and the patient has worked daily for 2 years as an anesthetist. She has a full range of motion and very few symptoms. Recent x-rays reveal the fracture has united. I think this can be considered slow union and a clinical good result before union took place. In some of these cases, forearm and tibia, external fixation is required, but the medullary nail helps prevent displacement with a minimal disturbance of the circulation at the fracture site. This group of 66 cases all united. 5 of these have been done too recently for a proper follow-up. These appear to be progressing satisfactorily.

Complications

1 case: Phlebitis which responded to treatment.

1 case: Nail driven into knee joint after x-ray check. It was retracted with no untoward effects.

2 cases: Nail bent slightly. No disturbance of function.

1 case: Wound infection. A compound double fracture of the tibia.

Summary

1. In the hands of those experienced with the technique, medullary nailing is a useful adjunct in the treatment of many fractures and orthopædic cases.
2. It is especially helpful in forearm and humeral fractures.
3. It is the treatment of choice in most fractures of the shaft of the femur.

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2222 Monument Avenue.

Last Call for Palace!

This June may be your last chance to wander at will through New York's Grand Central Palace! The AMA's scientific and technical exhibitions will be one of the last of the "private" meetings to be held there. Some time in the fall the Palace will be taken over by the US Bureau of Internal Revenue for office space. The 1953 Technical Exposition will feature displays from more than 350 manufacturing, drug and publishing firms, while the Scientific Exhibit will present approximately 260 clinical and diagnostic exhibits.

TRENDS IN THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS— A Study of 106 Cases of Pulmonary Resection*

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Hospital School of Medicine
and
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Blue Ridge Sanatorium,
Charlottesville, Virginia

In the past 10 or 12 years, the change in viewpoint towards pulmonary tuberculosis and the change in methods of treatment has been striking. It has long been recognized that artificial pneumothorax was a valuable method of treating pulmonary tuberculosis. However, the obvious difficulties, and dangerous side-effects were tolerated because no better method was available. Thoracoplasty produces satisfactory permanent collapse, and has resulted in the arrest of disease in thousands of patients. However, it does not remove the disease. It is possible that neither of these methods will ever be entirely abandoned. At the present state of our knowledge, it appears that pneumothorax because of its late complications of unexpandable lungs, tuberculous empyema, and chronic unhealed parenchymal lesions is better replaced with pneumoperitoneum. Similarly, in good risk patients with small residual lesions, resection seems more satisfactory than thoracoplasty. In patients with far advanced disease, lobectomy or pneumonectomy may save lives that thoracoplasty could not save. Patients whose thoracoplasty failed to produce arrest of disease, may frequently be salvaged by pulmonary resection.

To anyone who has performed many thoracoplasties, the indirect effect of such a large mutilating operation is to stimulate the surgeon to seek a better method. To remove the diseased area has always been an attractive idea, but one that was beyond reach until the advent of the antibiotics.

The large scale studies of the Veterans Administration and independent investigators have well established the optimum dosage and proper interval of administration for streptomycin and PAS (Para-aminosalicylic acid). These drugs have vastly improved the outlook for the patient and have brought many patients (otherwise hopeless) to the point where surgical therapy might be applied.

*Read before the annual meeting of the Medical Society of Virginia in Richmond, September 28-October 1, 1952.

Certain factors in the healing of tuberculosis must be considered in treating the disease and in resecting infected pulmonary tissue.

Without streptomycin and PAS, if a cavity healed, it almost invariably did so by the blockage of its bronchial opening with tuberculous granulation tissue. This often resulted in sound healing with a loculated, inspissated cavity containing live tubercle bacilli. In some cases, these blocked cavities remained sealed off during the life-time of the patient, especially after proper collapse therapy. Frequently, the sealing of the bronchus was insecure, and with physical trauma, or trauma due to intercurrent disease, the tuberculous infection again became active.

With the use of streptomycin, the tuberculous granulation tissue at the broncho-cavitary junction healed and became covered with epithelium. The epithelium then spread into and lined the inner walls of the cavity. This resulted in a cavity wall, infected with tubercle bacilli but lined with epithelium —a situation in which permanent healing is difficult. To complete the healing, so well started by streptomycin and PAS, the residual lesion must be resected in many cases.

The reported studies show that with the operative safety afforded by the antibiotics, with improved surgical methods, with expert anesthesia and plentiful blood for transfusions, the more quiescent lesions of pulmonary tuberculosis can be safely attacked.

The present series of 106 cases is a review of the work for the last two years, July 1, 1950, to June 30, 1952. All of these patients have been discharged from the Sanatorium. These cases are being studied critically with a view to selecting future cases with greater knowledge and judgment, and to adopt the various surgical procedures accurately to the needs of the particular patient. The 106 cases comprise only those cases which have had pulmonary tissue removed as a part of their treatment for pulmonary

tuberculosis. Only these cases which were observed prior to operation, or postoperatively, or both, at one of the state sanatoria (Blue Ridge Sanatorium) are reported. Most of these patients were admitted first to Blue Ridge Sanatorium, others were sent directly to the University Hospital from other Sanatoria, or from their homes, and later followed at Blue Ridge Sanatorium. No type of surgery other than resection, is considered in this study.

Table I shows the distribution of the patients in age, sex, type of operation and the use of the drugs.

The amount of streptomycin given is shown in Table II.

The amount of streptomycin given pre-operatively is shown in Table II. Cases that received less than 10 grams of streptomycin were arbitrarily considered to have had no streptomycin. There were 68 cases who received streptomycin and 5 (7.4%) developed tuberculous complications. There were 26 cases who did not receive streptomycin and 7 (26.9%) developed tuberculous complications. There were almost four times as many tuberculous complications in cases that did not receive streptomycin in the pre-operative period. Of the 26 cases that did not receive streptomycin, 24 (92.3%) were pneumonectomy and lobectomy cases. The majority of all tuberculous complications occurred in pneumonectomy and lobectomy cases as can be seen in Table V.

According to sex, complications are about twice as frequent in males as females. Table III shows that there were 39 males and 67 females in the series. The usual sanatorium population is approximately 45% male and 55% female.

Table III

Relation of Sex to Complications

Sex	Total Patients		Complications in Each Group	
	#	%	#	%
Male	39	36.8	10	25.8
Female	67	63.2	9	13.4
Total	106	100.0	19	17.9

The indications for operation are shown in Table IV. The greater the extent of lung destruction, the more radical the operation must become; therefore, the patients who had lobectomy and pneumonectomy were, in general, those with far advanced disease. Many of these would not have been salvaged by the older methods of treatment.

Table I

Pulmonary Resection—106 Cases

	Pneumonectomy	Lobectomy	Segmental	Wedge	Total
Total Patients	29	36	16	25	106
Men	9	16	7	7	39
Women	20	20	9	18	67
Age	15-72	16-70	20-60	16-50	
No Chemotherapy	12(+3)*	12(+3)*	0(+1)*	2(+1)*	34
Chemotherapy	14	21	15	22	72

*Refers to cases who probably did not receive streptomycin

Table II

Relation to Pre-Op Streptomycin to the Incidence of Complications

Amt. of Streptomycin	Number of pts.	Complications	
		#	%
10-30 Gms.	43	6	14.0
31-60 Gms.	25	2	8.0
60 or more Gms.	4	1	25.0
None	26	7	26.9
Unknown	8	3	37.5
Totals	106	19	17.9

Table IV

Indication for Operation and Its Relationship to the Incidence of Complications.

Indication for Operation	Total No. Cases		Cases with Complications	
	#	%	#	%
Lower lobe cavity or residual caseous lesion	30	28.4	7	23.3
Upper lobe cavity or residual caseous lesion	25	23.6	1	4.0
Destroyed lung or lobe	18	17.0	5	27.8
Thoracoplasty failure	13	12.3	2	15.4
Tuberculoma	11	10.4	0	
Bronchial disease	10	9.4	2	20.0
Giant upper lobe cavity or lesion close to mediastinum	4	3.8	2	50.0
Other	5	4.7	19	17.9
Total	106	100	19	17.9

Percentages in the second vertical column are expressed in terms of the total of 106 cases. Percentages in the fourth vertical column are expressed in terms of the number of cases comprising each indication listed with the exception of the lowest figure to which the first statement applies.

The single patient who developed a tuberculous wound infection, did so nearly one year after operation. Perhaps with a long post-operative course of streptomycin this might have been avoided.

Complications consisted of post-operative spread of disease, empyema, bronchopleural fistula or tuberculous wound infection. The incidence of these complications is shown in Table V. Most of these patients made ultimate complete recovery.

TABLE V
Complications

Type of Resection	Pts. with Complications	Types of Complications					
		Spread or Exacerbation	Empyema tbc. or non tbc.	Broncho-pl. fist.	Bron. stump ulcer	Tbc. wound infection.	Other
Pneumonectomy Cases (29)	20.7% (6)	13.8% (4)	3.5% (1)	6.9% (2)	3.5% (1)		
Lobectomy Cases (36)	27.8% (10)	8.3% (3)	13.9% (5)	16.7% (6)	5.6% (2)	2.8% (1)	5.6% (2)
Segmental Resection Cases (16)	12.5% (2)		6.3% (1)	12.5% (2)			
Wedge Resection Cases (25)	4.0% (1)	4.0% (1)					
Total Cases (106)	17.9% (19)	7.5% (8)	6.6% (7)	9.4% (10)	2.8% (3)	.9% (1)	1.9% (2)

The fate of the patients who sustained these untoward effects is shown in Table VI. Of the 19 patients who developed complications, four are dead, and four others still have active disease. The remaining eleven have arrested disease.

TABLE VI
Complications: The End Results

Type of Resection	Total Complications	Arrest Disease	Active Disease	Dead Tuberculosis or Non-Tuberculosis
Pneumonectomy	6	2	2	2
Lobectomy	10	6	2	2
Segmental Resection	2	2		
Wedge Resection	1	1		
Totals	19	11	4	4

Table VII shows the result of treatment on discharge from the Sanatorium. It must be noted that not all of these patients were discharged to their homes. Some returned to other Sanatoria to complete their cure. Of the entire group, 27 patients (25.5%) were reported as still having active disease. Most of this group consists of those patients who were progressing satisfactorily, but were discharged to other sanatoria to complete their convalescence.

When these figures are compared with similar series of cases in the literature (Table VIII) it can be seen that the mortality in this series is extremely favorable, as is also the percentage of complications. Most of the patients with complications recovered satisfactorily.

A number of other operative cases, still in the Sanatorium will be included in a later report. The total of the new series is already approximately 50 cases. In this later series, the morbidity and mortality are significantly lower.

DISCUSSION

A careful study of the results and review of the x-ray films after the fate of the patient was known, has revealed certain facts.

Most of these patients received what we now believe was quite inadequate drug therapy both prior to operation and postoperatively. Considering this, the results are remarkably good.

We now believe that a minimum period of 3 months of combined streptomycin and PAS is absolutely necessary in the pre-operative period. At the present time, most of our cases receive 6 months or more of combined drug therapy. A minimum of 3 or 4 months of combined drug therapy is essential in the post-operative period. The amount of streptomycin and PAS a patient should receive either preoperatively or post-operatively is obviously a matter which will vary with each case.

Most, but not all, of the patients in this series were bronchoscoped. All of them should have had

Table VII
Result of Treatment on Discharge From Sanatorium

Type of Resection	Arrest of Disease	Inactive Disease	Active Disease	tbc. Dead	Non tbc. Dead	TOTAL DEAD
Pneumonectomy Cases (29)	62.1% (18)	3.5% (1)	24.1% (7)	6.9% (2)	3.5% (1)	10.3% (3)
Lobectomy Cases (36)	72.2% (26)		25.0% (9)	2.8% (1)		2.8% (1)
Segmental Resection Cases (16)	68.8% (11)		31.3% (5)			
Wedge Resection Cases (25)	72.0% (18)	4.0% (1)	24.0% (6)			
Total Cases	68.9% (73)	1.9% (2)	25.5% (27)	2.8% (3)	.9% (1)	3.8% (4)

Table VIII
Comparable Series

Author	Number of Cases: No Specific Chemo-Therapy	Number of Cases: Specific Chemo-Therapy	Total Deaths #	Total Deaths %	Post-Operative Mortality #	Post-Operative Mortality %	Spread of Exacerbation #	Spread of Exacerbation %
Overholt	196		46	24	27	14	54	28
Sweet	63		28	44	9	16	20	32
Moore		74	6	8	6	8	3	4
Day	202		25	12	14	7	25	12
Present Study	34	72	4	3.8	3	2.8	19	17.9

the benefit of this examination. Bronschoscopy in tuberculous patients is of value early in their sanatorium stay to determine the presence or absence of tuberculous bronchitis, and to plot the patient's future treatment with this knowledge in mind.

Later, in the pre-operative period, bronchoscopy is useful in determining whether or not bronchial stenosis and obstruction exists, and to determine its degree, if present. This is important in the decision as to the amount of lung tissue that must be sacrificed in order to render the sputum negative and to insure a safe future for the patient. Contrary to what might be expected, bronchial disease in this series had little or no effect on complications.

Bronchiectasis has been found to exist in many chronically infected lungs. When its presence is suspected, bronchograms (with the injection of iodized oil) should be utilized. To relieve the patient of cough and expectoration, those areas of disease must be excised, even though the sputum may be negative for tubercle bacilli.

While tests for sensitivity of the tubercle bacilli to streptomycin were done on a number of patients, no attempt has been made in the study to correlate these findings with the end results and complications.

The complications are due to operative trauma on air passages, blood vessels and pulmonary parenchyma. Apparently, lung tissue can be incised and sutured, readily and with few complications, when it is done in the periphery of the lung—away from large bronchi and vessels.

No complications in the series were related to operative interference with the great vessels. The single operative death was due to a transfusion reaction.

In some patients there were multiple factors making operation necessary, and in some cases multiple sections of lung tissue were done at the same procedure. For example, a patient might have an upper lobectomy for a destroyed lobe and a segmental resection of a cavity in the apical segment of the lower lobe done at the same operation.

Complications were most frequent in patients under 20 years of age and over 60 years of age.

The extent of the disease was not a factor in complications.

A positive sputum within 30 days prior to operation was a factor in the complication group. With the present method of preparation of these patients, practically no patient has a positive sputum within one month of operation.

Progression of disease was a definite factor in patients who developed complications.

Bronchial disease, *per se*, has no effect on complications.

The size of the cavity has no effect on complications.

In patients who showed new disease after operation, the majority developed it in pre-existing areas of disease. This, therefore, was an exacerbation and not a true spread.

Non-tuberculous complications such as diabetes, pregnancy and peptic ulcer had no effect on pulmonary complications. One patient with silicosis did develop a bronchopleural fistula which closed.

The resection of diseased lung tissue offers a safe and successful method of controlling the disease in a patient who has been freed of the acute exudative phase by means of streptomycin and PAS.

Resection of tuberculous lesions can be done with negligble risk and with the prospect of a future reasonably safe from exacerbation. There were three deaths in the pneumonectomy group and one in the lobectomy group. There were no deaths in the wedge and segmental group. This suggests that tuberculosis should be treated early and vigorously. Suitable lesions which persist should be excised.

SUMMARY

A review of 106 cases who underwent various forms and degrees of pulmonary resection is presented.

It is recognized that the follow-up period (2 years at the longest) is insufficient to determine the eventual fate of this group of patients. At present, the results are encouraging.

This report should not be interpreted to mean that we believe that all patients should have some type of resection. Some other types of surgery have a definite place in the treatment of pulmonary tuberculosis, but that discussion is not within the scope of this study.

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SAMA June Convention Program Set.

Panel discussion devoted to doctor draft, general practice and SAMA chapter activities will highlight the third annual convention of the Student American Medical Association. More than 1,000 registrants are expected to attend the meeting June 15, 16 and 17 at the Edgewater Beach Hotel, Chicago.

The tentative program announced by President David Buchanan, University of Illinois senior, calls for official business of the House of Delegates on Monday, June 15. That night Abbott Laboratories will be hosts at an informal get-together. Tuesday's program will feature the above panel discussions in the morning and tours of AMA Headquarters in the afternoon. Election of officers and a premiere of an outstanding medical film are on the docket for the last day of the meeting. A large technical exhibit will make its initial appearance at a SAMA convention this year. All AMA members are cordially invited to attend the sessions.

DIVERTICULOSIS OF THE JEJUNUM—
A Frequently Overlooked Source of Gastrointestinal Bleeding

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The difficulty sometimes encountered at operation in determining the source of gastro-intestinal hemorrhage warrants a report of a frequently overlooked cause of bleeding from the bowel.

The fact that diverticula occur in the esophagus, stomach, duodenum and colon is well known. When, however, diverticula of the small intestine are considered, one is inclined to think of this condition as being largely confined to Meckel's diverticulum of the ileum. This is erroneous, for many instances of diverticulosis of the jejunum have been reported since Sir Ashley Cooper first described this condition in 1844.[1]

These abnormalties differ from the more widely known Meckel's diverticulum in several respects. Aside from the obvious proximal location in the upper small bowel, these pouches are multiple and usually develop after the age of 40. Meckel's diverticula are single, congenital and located on the antimesenteric border of the ileum, whereas those arising in the jejunum are situated in or near the mesenteric border. These latter diverticula dissect downward between the leaves of the mesentery where they are relatively inconspicuous until they reach considerable size. This peculiarity of behavior, plus a tendency of the saccules to retract to the level of the adjacent bowel when the intestine is empty no doubt explains the frequency with which these pouches may be overlooked.

The reported incidence of this condition must be misleading. While Kozall, McMahon and Kiely[2] found only slightly more than 300 cases of jejunal diverticula in the literature in 1950, C. W. Mayo[3] reported 124 at the Mayo Clinic during the past 42 years. King[4] found 32 jejunal diverticula in 5000 autopsies and 5 at operation. On the other hand Case[5] found only 5 cases in 6847 gastro-intestinal X-rays.

Diverticula situated in the jejunum are probably less prone to cause symptoms than those in the ileum or colon due to the more liquid intestinal contents and lower bacterial counts. Complications, however, do occur. Traumatic rupture of the sac, diverticulitis with perforation and obstruction of the bowel due to the formation of enteroliths within the pouches have been reported. Fortunately all of these complications direct the surgeon's attention to the underlying cause and the correct diagnosis is usually made at operation.

A fourth complication, hemorrhage, is more difficult to trace back to the guilty diverticulum for at operation the involved saccule may not be distended and hence may be overlooked during the examination of this segment of bowel. Undoubtedly this explains a goodly number of massive gastro-intestinal hemorrhages for which no adequate cause can be found at subsequent operation.

Kozall, *et al.*,[2] reported a case of multiple jejunal diverticula associated with such severe hemorrhage that 17.500 cc. of blood was required to stabilize the patient and permit operation. Their review of the literature disclosed only six instances of bleeding from this source. These figures are undoubtedly misleading, for the occurrence of hemorrhage must be higher. At least two instances of this complication have occurred in Richmond during the past few years.

The cause of bleeding from these saccules is not explained as readily as in the case of Meckel's diverticula where gastric mucosa often is present with secondary ulceration and hemorrhage. A possible explanation is found in the mode of origin of these acquired diverticula. They occur usually along the mesenteric border where the intestinal wall is weakened by perforating blood vessels. This means that each sac is associated closely with a branch of a mesenteric vessel. The thinned out wall of the diverticula which usually consists of only mucous membrane and connective tissue makes the underlying vessel more liable to local trauma with submucosal bleeding, ulceration and ultimate hemorrhage. In Kozall's[2] case massive bleeding followed a fall which was of sufficient severity to fracture a humerus and he felt that this trauma may have precipitated the hemorrhage. Be this as it may, bleeding does occur and this source of blood loss must be ruled out during an exploratory laparotomy for gastro-intestinal hemorrhage.

*Read before the annual meeting of The Medical Society of Virginia at Richmond, September 28-October 1, 1952.

Mayo[3] feels that in order to avoid overlooking collapsed diverticula steps should be taken to distend these sacs at the time of operation. This can be accomplished by one of several maneuvers. The jejunal contents may be milked downward while the bowel is compressed at a lower level. The upper jejenum may be inflated by air injected through a Miller-Abbott tube or through a hypodermic needle inserted through the bowel wall and attached to an air-filled syringe. These simple measures undoubtedly would demonstrate many diverticula which otherwise could escape detection.

The treatment of this condition is resection of the involved segment of jejunum. This may entail removal of considerable bowel for cases have been reported in which several hundred pouches have been scattered throughout the upper jejunum.

The following illustrative case will be briefly reported:

B.A.J., a 61 year old woman, was admitted to the Retreat for the Sick on May 9, 1952, because of an attack of vomiting the preceding day which was followed shortly afterward by the passage of dark blood by rectum.

Her past history dealt chiefly with a 35 year story of rheumatoid arthritis which had confined her to bed for the past few years. She had three children and her health other than the above had been generally good.

Further questioning developed that while no blood was vomited several large bright to dark bloody stools had been passed prior to admission to the hospital. The severity of this bleeding was borne out by the initial blood examination which showed a hemoglobin of 44% and 2,500,000 red blood cells.



Segment of jejunum resected. The diverticula are demonstrated by distending the loop of bowel with water. The Kelly clamp occludes the largest diverticulum which was the only sac evident when the bowel was first examined at operation.

Physical examination showed only the marked flexion deformities of a severe arthritis. The abdominal, pelvic and rectal examinations were essentially negative. Old blood was present in the first stool following admission but subsequent bowel movements contained none.

The patient's condition improved and after a 500 cc. blood transfusion, X-ray studies were made of the gastro-intestinal tract. Barium by mouth showed a normal stomach and intestine. Repeated barium enemas, however, revealed a constant area of narrowing in the upper sigmoid which persisted despite antispasmodics. In view of the history and these findings an exploratory laparotomy was carried out on May 20.

The sigmoid showed nothing abnormal. No cause was found for the narrowing noted on X-ray. The remainder of the gastro-intestinal tract was examined. About 30 cm. below the ligament of Treitz, a diverticulum measuring about 4 cm. in diameter was found extending into the mesentery. No other pouches were seen immediately and under the impression that this was an isolated diverticulum steps were taken to excise it. The application of a rubber clamp to facilitate this resulted in the proximal jejunum becoming somewhat distended with air and a number of diverticula then appeared between the leaves of the mesentery. The bowel was milked downward after the method of Mayo and this further delimited the diverticula-bearing area. This segment of bowel, which measured about 65 cm. in length, was resected and an end-to-end anastomosis was done. A 500 cc. blood transfusion was given and the patient was returned to her room in good condition. The convalescence was uneventful and she was discharged on the tenth post-operative day. She has had no further bleeding since her return home.

Examination of the specimen showed extensive diverticulosis and a small (1 x 1 cm.) benign polyp which had not been palpated through the wall of the bowel. A thrombosed vessel was found in the polyp, the significance of which could not be determined.

CONCLUSIONS

1. Diverticulosis of the jejunum is not as uncom-

mon as the published cases would indicate.

2. The complications resulting from diverticula elsewhere in the intestinal tract also occur in those situated in the jejunum.

3. Massive hemorrhage may result from jejunal diverticula and unless operation is carried out during the active period of bleeding the involved saccule may be collapsed and escape detection.

4. Whenever the gastro-intestinal tract is explored for obscure bleeding steps should be taken to distend the jejunum in order that any diverticula present may be demonstrated. Several means of accomplishing this have been suggested by Mayo.

5. X-ray examinations of the gastro-intestinal tract are seldom helpful in jejunal diverticulosis.

6. Resection of the involved segment of bowel is the indicated treatment for this condition.

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312 Medical Arts Building.

Floral Eponym

Simsia (family Compositae)
Sims, John (1749-1831)

Simsia as a floral eponym has had its ups and downs. Two genera have been named for Dr. John Sims, but neither can be found in current horticultural dictionaries or encyclopedias. I am indebted to S. F. Blake, Senior Botanist, of the Department of Agriculture for the following: "The first Simsia was published by C. H. Person in 1807 for a genus of Compositae with three Mexican species, not remotely related to Helianthus. It was kept up for a good many years but finally reduced to Encelia by Bentham in 1873. In 1913, I (S. F. Blake) reviewed the genus in my master's thesis and since then it has been pretty generally recognized as distinct. The second Simsia was dedicated by Robert Brown in 1810. It was a genus of Proteaceae from Australia and was renamed Stirlingia by Endlicher in 1838, which name is now used."

Dr. John Sims, a native of Canterbury, was a prominent London botanist and physician. He was a member of the Royal Society and an original member of the Linnean Society. For a number of years he edited Curtis' Botanical Magazine. Sims graduated in medicine at Edinburgh in 1774 and was a Licentiate of the Royal College of Physicians and was physician to the Surry Dispensary. He was consultant at the disastrous confinement of Princess Charlotte but did not see the patient until she was on the point of death, being kept in reserve in an anteroom.

THE USE OF REHABILITATION MEDICINE IN THE COMPLETE TREATMENT OF HEMIPLEGIA*

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We are constantly being reminded of the medical problems associated with our aging population and chronic physical disabilities, but, like the gradual growth of our children, it takes an eighteen year old draft law or the need for a college education to make us realize that our offsprings are no longer little ones but have grown up. Any survey relative to population percentage reveals the solid fact that the medical problems associated with chronic physical disabilities and the aging population are no longer little problems—they are grown up, they are of major proportions, they are here, and to a large extent they are our babies because they are the offsprings from the excellency of the job done by the medical profession.

On the basis of the 1950 census, it is estimated that there are about twelve and one-half million persons 65 years of age and over in our population at this time. This is a 36% increase in this age category over 1940, and twice the general population increase. Therefore, it is readily understandable that more and more of the physician's practice has to do with physical disability resulting from acute or chronic disease associated with an aging population. Of this category, hemiplegia following apoplexy is of major proportions. On the basis of early statistics, it is estimated that there are over a million hemiplegic patients in the United States. Although hemiplegia is a major medical problem and is on the increase, with our fuller understanding of this condition we need not view it with a feeling of hopelessness. In our experience, a large percentage of these patients can be rehabilitated to self-care and interesting avocations and a lesser percentage can be rehabilitated to productive, useful vocations. Furthermore, unless we are dealing with a rapidly progressive underlying disease, the activities associated with rehabilitation procedures bring about a better mental attitude and, in those cases associated with hypertension, usually a lowering and stabilization of blood pressure level.

The treatment of hemiplegia following apoplexy is separated into two parts. The first or immediate treatment is devoted to saving the life of the patient and arresting the pathologic process in so far as possible. The second part of the treatment is concerned with the residual loss of function (chiefly varying degrees of hemiplegia) resulting from the damage to the brain caused by the vascular accident or other pathology.

The purpose of this presentation is to discuss the second part of the treatment, that is, the use of rehabilitation medicine in the complete treatment of hemiplegia. Much can be done for a patient with hemiplegia and the likelihood of his remaining a "hopeless cripple" can be greatly reduced by proper management. Since there is still some misconception regarding the treatment of this condition as indicated by patients who have been immobilized for weeks or months, it seems worthwhile to discuss a more rational approach to the problem and to show the results that can be obtained by early and energetic treatment.

There are two fundamental principles of medical management that underlie all activities relative to restoration of physical function:

First, nothing prevents contractures like proper positioning and proper movement of the part.

Second, nothing begets movement like movement itself; nothing begets power of movement like movement against resistance and nothing begets coordination like repetition of movement in normal range of function.

Prevention of Contractures: This is accomplished by (a) proper positioning in bed and (b) movement of the affected joints through their normal range of

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motion at least four times a day. All hemiplegic patients, while in bed, whether they be in shock or not, should be properly positioned with a view towards preventing contractures. This consists of the use of a footboard or a posterior leg splint to prevent foot drop, the use of a sandbag or hard pillow to prevent outward rotation of the affected leg and the use of a pillow in the axilla to prevent adduction of the arm. These procedures are the very essence of simplicity but are so frequently overlooked in the proper management of not only hemiplegia but other neurological conditions as well, such as polio, Guillain-Barre, peripheral nerve injuries and the like. Positioning in bed is of vital importance to the ultimate outcome of treatment. Once a contracture has become established, it requires more time to overcome the contracture then it would to treat the original conditions. In addition to proper positioning, the affected part (leg and arm) must be passively carried through its full range of motion at least four times a day. The most frequent complication is the so-called "frozen shoulder" with all the pain and limitation of motion that goes with this diagnosis. This condition results from spasticity of muscles around the shoulder of the affected upper extremity. There is seldom calcium deposits but the joint space is narrowed. Therefore, it is most urgent that the affected arm be passively carried through its full range of motion, stressing the overhead position, several times a day if we are to prevent this condition.

As soon as the patient recovers from shock, we instruct him to tense the quadriceps muscle in the affected leg. It is rare that this muscle is completely knocked out. There will usually be a flicker of response even in a leg that is apparently totally flaccid. Quadriceps setting should be performed each hour while awake, starting with a few contractures of mild intensity increasing the amount and power—always within fatigue limits—until other rehabilitation procedures have taken over this function. In addition to the above, as soon as the patient recovers from shock, we use some type of bed frame with a hanging trapeze bar or a simple U strap to enable him to use his good arm to assist himself in moving about in the bed. We have found that the U strap or rope is quite simple to construct and extremely efficient. The U rope is constructed by tying both ends of a rope to the foot of the bed, making the U long enough for the patient to grasp with his good hand and pull himself up into a sitting position. We recommend that the patient pull himself up at least once an hour while awake but we find that most of our patients will pull themselves up more often to change positions. We recommend that if a patient is to be restricted to bed for more than ten days or two weeks that some type of bed frame be used and that pulley therapy be instituted for both the arms and the legs. However, the majority of patients do not remain in bed long enough to justify a frame. Usually the U strap will be quite sufficient.

Sitting Up in Bed to Re-Establish Balance: If there are no complications, the second or third day after regaining consciousness, the patient should be propped up in bed and by the end of a week should be sitting on the side of the bed or in a chair at least twenty minutes twice a day. If there are no signs of fatigue this time can be increased.

You will note that to this point all discussion of management of hemiplegia has presupposed the patient to be restricted to bed or, at most, sitting in a chair beside the bed. If the patient has fully recovered from shock and is able to sit on the side of the bed without severe disturbance of balance, a decision now has to be made as to whether the course of rehabilitation shall be active or restricted. Most medical literature on this subject emphasizes that active rehabilitation for cases resulting from thrombosis or embolus can be done as soon as the patient regains consciousness but that cases resulting from hemorrhage and other conditions should be restricted to bed or mild activity for at least two weeks. Although we can agree with the theory behind these recommendations, in actual clinical practice it has been our experience that we gain but little by attempting to push the patient for the first week. As percentage would indicate, we have had but very few cases which resulted from cerebral hemorrhage. In these cases, it has been our experience that the patients are much sicker than patients from cerebral thrombosis. They normally have more headaches and they do not desire to be active. In these cases we proceed slower. However, we have never felt that we had to stick to a strict two weeks in bed regime. Clinically, if the patient has improved sufficiently for activity, we will start ambulation during the second week.

Ambulation: Cases of hemiplegia that recovered rapidly with but mild residual present no great problem relative to ambulation provided they have been properly positioned in bed and are gotten up early. These patients will start walking with the aid of a nurse or a member of the family as early as the third or fourth day. They will rapidly recover balance and ambulate by using a cane and, in some cases, without any aid. If there is moderate involvement of the lower extremity, one sees that very chracteristic "hemiplegic gait"—the patient walks with a fixed knee joint and circumducts the total affected lower extremity. This gait is protective in nature, and is to overcome the dorsiflexion and supination of the foot that follows the flexion of the knee and the flexion of the hip (Strumpell's sign), the characteristics of this disability. The patient fears placing weight on the foot—he may stumble, he may injure the ankle. It is important to provide a brace early to overcome the pattern of circumductive walking and to restore the patient's confidence in ambulation.

About half of our hemiplegic patients will require some type of short leg brace. A simple wire drop foot brace is sufficient for a number of patients but when the ankle is unstable, a double bar ninety degree stop leg brace is required. In the most severe cases (about 4%) a long leg brace for stability of the knee as well as the ankle is required.

In summarizing, we would like to re-emphasize that second to saving the patient's life and arresting the underlying disease process, proper positioning in bed and movement of the affected parts is of major importance. These procedures are the very essence of simplicity but so often overlooked. Patients should be gotten up early and started on ambulation with or without a short leg brace as indicated. Most of your cases will come under the classification of mild to moderate disabilities and can be handled at home.

The length of this paper precludes giving any details of exercise procedures. However, a monograph has been prepared by Dr. Howard Rusk and the staff of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center. This monograph can be obtained from Dr. Rusk or from the Professional Services Department, Sharp and Dohme, West Point, Pennsylvania. You will find this pamphlet excellently done and covering the exercises for the mild or moderate cases. Severe cases will require more facilities than are found in the average home and will, in addition, rquire skilled therapists for best results.

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TREATMENT OF BURNS*

Charles Hamilton Lupton, M.D., F.A.C.S., F.I.C.S.,
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Norfolk, Virginia

In 1946 I presented before The Medical Society of Virginia a paper on the treatment of burns. The early local treatment consisted of Modified M. C. V. Ointment applied without debridement and under strict aseptic conditions; infrequent dressings; early skin grafting, etc. The general treatment consisted of giving plasma and blood supplemented with electrolytes to prevent or combat shock; oral administration of electrolyte-alkaline solution unless contraindicated; sufficient fluids to obtain a urinary output of about 1000 cc. daily; a high carbohydrate-high protein diet (200 gm. or more daily) with adequate vitamins, particularly the vitamin B complex and vitamin C.

This discussion will be concerned mainly with the results obtained by the method employed at that time, which is still in use except for minor changes, and with such advancements and improvements in the management of burns as have been reported by others.

The mortality rate from burns is still far too high, even in our better hospitals, and it is important that a discussion of their management should be presented to the profession more often.

Although the management of burns remains one of the most controversial subjects in the entire field of surgery, the greater part of the controversy resolves itself around the local treatment. Nevertheless, there is still considerable disagreement with regard to certain phases of the general treatment, paricularly the question of how much blood to give in the early or shock phase. There is also considerable discussion of the value of ACTH and Cortisone in the treatment of burns, but the majority of opinions at present indicates that both are of doubtful value.

World War II was an important factor in stimulating further investigation and research in the management of burns, and considerable progress has been made during the past fifteen years, but the greatest improvement has been in the general treatment. It is regrettable that most of the information obtained is not common knowledge in the profession as a whole but is confined chiefly to those who are making a special study of burns.

Severe burns are surgical emergencies, and both the early general treatment and the early local treatment should be carried out promptly and simultaneously. To obtain the best results it is advisable to have a team trained in the management of burns. Certain members of the team should immediately start the early general treatment, giving blood, plasma, electrolytes, etc., to prevent or combat shock as indicated. At the same time other members of the team should be carrying out the local treatment.

The term "severe burns" as here used means all blistering or deep burns that involve a considerable part of the body surface. There are many factors that may profoundly influence the seriousness of the condition, namely: The extent and the depth of the burn; the age of the patient; the time elapsing between the burn and the institution of proper treatment; the general condition of the patient; the location of the burn, and the causes of the burn. Usually any patient with as much as 8 to 10 per cent of the body surface involved in a third-degree burn or any patient with 15 to 20 per cent of the body surface involved in a deep second-degree burn presents a rather serious surgical problem. This applies particularly if the patient is very young, very old, debilitated, or if the burns involve the extremities.

Every physician who is called upon to treat burns should be able to determine the extent of the body surface burned, but on the first examination it is often impossible for even those with considerable experience in the management of burns to determine their depth. The exact depth of the burn frequently cannot be determined before the tenth to the fourteenth day, and at times the depth of the entire burned area can not be determined that early. Some surgeons at this time perform biopsy of the deeper burns to determine their depths; if hair follicles and sebaceous glands are present it is evident that epithelization

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will take place. There is a tendency for the physician with little experience in the treatment of burns to over-estimate the extent and depth of the burned area. Even physicians with extensive experience in the treatment of burns frequently over-estimate depth. Lund and Browder's modification of Berkow's method for determining the extent of the body surface burned in adults is recommended:

Head	7%
Neck	2%
	9%
Anterior Trunk	13%
Posterior Trunk	13%
Buttocks	5%
Genitalia	1%
	32%
Upper Arms	8%
Forearms	6%
Hands	5%
	19%
Thighs	19%
Legs	14%
Feet	7%
	40%

NOTE: The palm represents slightly less than 1 per cent of the body surface.

TREATMENT

The therapy of burns is divided into local treatment and general treatment.

The *local treatment* of burns is classified as follows: (1) agents and dressings applied to the burned areas, or the open treatment; (2) early plastic treatment, and (3) late plastic treatment.

The general treatment of burns is divided into three stages: (1) early general treatment, during shock or the potential shock period; (2) intermediate general treatment, and (3) late general treatment.

Local Treatment. Whether debridement is to be carried out or not will depend to a great extent on the local treatment to be applied and on the general condition of the patient. When Modified M. C. V. Ointment and compression dressings are used locally, the need for debridement is practically eliminated. On the other hand, if petroleum gauze and compression dressings are used locally and if the patient's general condition justifies it, debridement with morphine analgesia may be indicated, but no anesthetic should be given. When petroleum gauze is used, the gauze should be extremely fine-meshed, and only one layer should be used; otherwise, there will be considerable maceration of the tissues.

Most surgeons of experience in the treatment of burns will now agree that extensive debridement of severe burns not only is unnecessary but may be extremely dangerous. Extensive debridement may be an important factor in producing shock, or increasing it if it is already present. The belief that extensive debridement is necessary for early burns in order to prevent severe infections has been proved incorrect if the local method to be described has been employed early. However, with neglected second-degree burns and extensive third-degree burns infection may be a very real problem. If one were treating only the local wound, debridement with the patient under anesthesia would be the proper surgical procedure in certain cases. If the burn is severe, one is dealing with a critically ill patient, and anything that would be an important factor in producing shock or delay unnecessarily the correction of the abnormal physiologic condition would many times offset any benefits that might result from debridement. The practice of giving these critically ill patients an anesthetic is to be condemned.

Ordinarily we do not use soap and water for cleansing these wounds, but if there is so much dirt, etc., that a soap appears indicated, one containing hexachlorophene should be used. If the general condition of the patient appears satisfactory, we do excise devitalized tissue that is partly detached, and gently remove loose dirt with cotton balls soaked in saline solution. We never open blebs at the time of the original dressing. A patient with severe burns, if there is delay in carrying out the local treatment, may go into shock, and the longer the delay the greater the possibility of infection. *If there is delay in carrying out the early general treatment shock may rapidly ensue, or if already present it may progress until irreversible changes take place.*

Whenever possible, burns should be dressed in a special room used for that purpose, with an exhaust fan to help free the air from contamination; or ultraviolet light may be used instead. Certainly the patient should not be dressed in large wards or in rooms with other patients. If sloughs of any par-

ticular extent are to be removed, the patient should be dressed in the operating room. The surgeons and nurses engaged in carrying out these treatments should wear caps, masks, sterile gloves and gowns, and they should observe a sterile technic throughout the procedures. Proper masking of the patient and those engaged in carrying out the local treatment is most important. If these principles are not observed, infections will be increased.

Application of Modified M. C. V. Ointment with adequate occlusive pressure dressing is an excellent method of local treatment. M. C. V. Ointment is so soft that it does not adhere well to the deeper burns in warm weather; therefore, it has been modified simply to make it of greater consistency with the therapeutic value remaining essentially the same. Modified M. C. V. Ointment is as follows:

Sulfanilamide (finely powdered)	6.0%
Peanut Oil	8.0%
Cold Cream (Eli Lilly & Co., #25)	42.5%
Lanolin	42.5%
White Wax	1.0%

With an aseptic technic, the local treatment is applied as follows: 1. Modified M. C. V. Ointment is thickly applied to the entire burned area and to 1 inch (2.5 cm.) or more of the adjacent unburned skin. 2. A layer of Kerlix gauze (Curity) is then applied. 3. One or two layers of large thick combines are applied. (Johnson & Johnson manufacture large thick pads consisting of fine gauze, cotton, cellulose and waterproofing material on the outer side which have recently been put on general sale. These particular pads are better than the large combines but they should manufacture even larger sizes.) 4. A wide elastic bandage is applied. Stockinet of single thickness may be used instead of the Ace bandage; it is excellent for holding these dressings in place.

When the patient is uncooperative, there is often difficulty in keeping the dressing on the body, in which event we sometimes use a many-tailed binder. In addition, we place stockinet over the entire dressing. This has been most helpful in keeping the dressings in place.

To obtain adequate compression without constriction or tourniquet effect, it is necessary to have a thick and "fluffy" dressing. Constriction or a tourniquet effect must be avoided. As has been pointed out by many surgeons, when one is bandaging an extremity the pressure must be greater distally.

Frequent dressings should be avoided. They may delay healing, and they increase the possibility of infection. Infections of second-degree burns may result in complete loss of the skin.

This type of dressing with Modified M. C. V. Ointment has a quick analgesic effect. Burned patients treated by this method remain unusually comfortable, and the need for sedatives and hypnotics is very much reduced. There is slow absorption of the sulfanilamide from the ointment, and the blood concentraion, even in extensive deep burns, remains low; therefore, it is not necessary to determine sulfanilamide blood levels. On the other hand, sulfonamides should not be given by other routes. It is often surprising how much healing will have taken place at the time of the first change of dressing, whereas, with many other methods of local treatment, it is not uncommon to find areas that originally were of second degree showing total skin loss. As is well known, the deeper the burn the greater the possibility of infection.

It is not advisable to use this ointment longer than two or at most three weeks. If preparation of the deep burns for grafting cannot be started at the end of that time, some other method of local treatment without sulfonamides should be substituted. For badly infected late burns we do not necessarily advocate this local method of treatment; in fact, we know of no method that is entirely satisfactory in these cases. However, we have used this method in a number of cases of moderate infection, and the results have been much better than was anticipated; but those cases should be individualized. Furacin has been reported as satisfactory in the treatment of infected burns. In such burns we often apply a wet dressing; in some cases we use saline dressings, and others we frequently use 0.5 per cent acetic acid, but of course there are other solutions which may be used to advantage. We use penicillin for all infected burns; in addition, we use aureomycin, dihydrostreptomycin or terramycin, depending upon the sensitivity of the organisms present.

Many surgeons are convinced that petroleum gauze with compression dressings and sulfonamides given orally or intravenously will accomplish the same results as the method just described, because the sul-

fonamide concentration in the fluid within the burn bleb is about the same as in the blood. There are three reasons why Modified M. C. V. Ointment with compression dressings will give better results. First —an important fact—the ointment places the sulfanilamide in direct contact with the devitalized tissues that cannot be reached by the circulating blood. This, in my opinion, accounts for the low incidence of infection with this method of local treatment. Second, the dressings can be removed without producing bleeding of any consequence, as this ointment leaves a thin film adherent to the burned area. It is difficult to remove petroleum gauze from a deep burn without producing bleeding and damage to the burned area. Third, the patient is more comfortable. To use Modified M. C. V. Ointment with compression dressings is to be impressed with its efficacy.

During the past few years some surgeons have been omitting ointments, etc., from the burned area and applying dry gauze with compression dressings for ten to fourteen days. If at the end of this period the burned area is not ready for grafting, they apply aureomycin ointment. This method deserves further trial.

There are numerous other methods of local treatment, some of which have merit. One of the best informed surgeons uses 5 per cent scarlet red ointment locally. Some surgeons are using various antibiotics locally; aureomycin and penicillin are perhaps the most popular. A few are using Zinax. Many well informed surgeons do not believe that any method of local treatment stimulates healing of the burned area. There are some agents used locally in the treatment of burns that actually delay healing.

Kyle and Wallace, as well as Pulaski and Blocker, are advocates of the open treatment of burns. Evans and his associates at the Medical College of Virginia are also using this open method of treatment in selected cases. This is a method with which all general practitioners and general surgeons should be familiar. In cases of extreme disaster it may be the only feasible method, but there are certain disadvantages:

1. It is not applicable when the entire circumference of the body is burned.
2. An extremity requiring treatment must be suspended.
3. A certain amount of restraint has to be placed upon the patients (particularly the younger ones), because if much motion takes place, cracks will occur in the burned surface and infection will follow.
4. Considerable nursing care is required.

Aureomycin powder is used locally in the open treatment by Evans and his associates.

The advocates of the open method of treatment claim three advantages: (1) A dry wound, which is unfavorable to bacterial growth; (2) the bactericidal effect of light, and (3) the fact that the wound remains cool, which is unfavorable to bacterial growth.

The advocates of the open method particularly recommend it for the treatment of burns of the face, the genitalia, the buttocks, one surface of the body and the extremities.

It will be some time before it is definitely determined whether the open method of treatment is as satisfactory as the methods that have been in use for a number of years. There is a great tendency for American physicians to give up methods that have been fairly satisfactory in order to try something new. There is some justification for this in the treatment of burns, as there is no ideal method of treatment at present. Neverthless, although one must keep an open mind with regard to all new ideas, greater evidence must be accumulated as to the results obtained from the open method before it is accepted as a substitute for well-tried methods. Although it may eventually prove as satisfactory as its advocates now claim, it is well to remember that the open method of treatment fell into disrepute many years ago.

I have now had extensive experience with Modified M. C. V. Ointment and compression dressings as the local treatment for burns. I am still deeply impressed with this method of local treatment; in my opinion, it is equal to any local method in use today. I have observed only 2 cases of sensitivity to Modified M. C. V. Ointment; neither of the patients had received adequate fluids, and one was badly dehydrated. In a very small percentage of cases, healing has appeared somewhat delayed, which is difficult to explain, but this has been observed even more frequently with all other methods of local treatment that have been used. REGARDLESS OF THE LOCAL METHOD

OF TREATMENT EMPLOYED, IT SHOULD BE STRESSED THAT THE PATIENT MUST BE MAINTAINED IN A STATE OF GOOD NUTRITION; OTHERWISE, HEALING WILL BE DELAYED.

Early Plastic Treatment: Deep burns should be grafted as soon as the burned area can be brought into a healthy condition. Grafting ordinarily should be started by the 10th to the 14th day or earlier whenever possible. Occasionally it may be necessary to defer grafting slightly longer because of the condition of the burn and the general condition of the patient, but one should keep in mind that the most satisfactory dressing for a deep burn is a split-thickness skin graft. There are four principal ways of removing sloughs:

1. Saline dressings. When the slough is very thin, apply saline dressings daily.
2. Digestive enzymes (to be used when sloughs are thin).
3. Phosphoric acid. Apply phosphoric acid (0.9 per cent) to the sloughs of thin to moderate thickness (pyruvic acid may be used instead of phosphoric acid). These sloughs should be incised for better penetration.
4. Surgical excision. *This is the preferred method for removing sloughs,* particularly the thicker ones. If the grafting is not done on the day of the excision, apply dry gauze dressing with compression.

Personally, I prefer dermatome split-thickness (thin) grafts of about 0.010 inch. The thin grafts take more readily than do the thicker ones. Under the most favorable conditions, about 90 to 95 per cent of thin split-thickness grafts should take. If the grafts are cut thin enough, the same donor site can be used again. Pinch grafts are occasionally indicated for deep, small burns, but ordinarily we prefer not to use them, using split-thickness grafts instead. When there is difficulty of obtaining sufficient large autografts, they should be cut about the size of postage stamps and separated about ¼ to ½ inch (0.6 to 1.2 cm.). For extensive deep burns when sufficient split-thickness postage stamp size autografts cannot be obtained, isografts (hemografts) should be used. When isografts (homografts) are used they should be placed between the autografts.

Anemia should not be allowed to occur if the patient is seen early. If anemia has occurred it must be corrected before grafting. If there has been a respiratory burn, grafting must be delayed, and sodium pentothal supplemented with cyclopropane is perhaps the best combination of anesthetics if a spinal anesthetic cannot be used. The most important principle is to get the granulating surface covered, creating a closed wound, the beneficial effects of which are known, and thereby avoiding deep scars and contractures. Early and proper splinting of joints is of decided importance in preventing contractures. The hand should be placed in the position of function when it is to be bandaged for several days or more. In treating burns one should consider the function of all joints in the burned area. Some surgeons apply a layer of cellophane to the dermatome drum before cutting the graft, which keeps the graft from contracting. Very few stitches are required to hold these grafts in place.

The patient should not be exposed to sudden changes of temperature, and during grafting it is important that only minimal exposures be made, as there is a strong tendency to shock. The blood lost during the operation must be promptly replaced. *A completely sterile wound is not necessary for grafting, but, of course, the healthier the wound the better. When extensive grafting is necessary, the grafting should be performed on the flexor surfaces first.*

Late Plastic Treatment: The late plastic treatment of burns is concerned with the correction of contractures, cutaneous defects and deformities, or perhaps with the removal of thin grafts that were applied simply to cover a granulating surface. Therefore, the grafts used must be considerably thicker than those described for early plastic treatment. Not only should these grafts be thick enough to protect the underlying structures, but they should serve the functions of essentially normal skin. Ordinarily, I prefer split-thickness grafts of about 0.020 inch. Occasionally I use pinch grafts to cover small areas, but they have a limited field of usefulness. In the case of certain contractures and scars, the Z plastic and releasing incisions are extremely useful procedures. In some instances a pedicle graft will be necessary to obtain satisfactory results. After oozing from the donor sites has been controlled, the sites should be dressed in the same way as a burned area, with Modified M. C. V. Ointment and occlusive pressure dressings. It is essential to keep the patient in a

good nutritional state during all phases of plastic surgical treatment; otherwise, failures are likely to result. Cold cream, or lanolin and cold cream should be applied to the burned area as soon as all the areas are healed, to prevent drying, cracking and irritation of the skin.

General Treatment.—Early General Treatment: There must be no delay in carrying out the early general treatment. When the patient is first seen he complains of pain and thirst and is often shaking as though he had a chill. The more severely burned patients are given morphia on admission. In case of shock the morphia, if indicated, should be given intravenously and in reduced dosage. It is practically never necessary to give morphia to any burned patient, regardless of the extent and degree of the burn, after applying Modified M. C. V. Ointment.

When laboratory facilities and personnel are adequate, blood should be collected immediately for determination of blood volume, the hematocrit reading, the hemoglobin level, the erythrocyte count, the values for plasma proteins and blood chlorides and the carbon dioxide combining power of the blood. These laboratory procedures and urinalysis should be repeated one or more times daily during the first forty-eight to seventy-two hours in order to carry out the fluid therapy in a satisfactory manner. The Rh factor should be determined before repeated transfusions of blood are given. Other indicated laboratory procedures are determination of the nonprotein nitrogen level, the blood potassium level, the prothrombin level and the icterus index.

This method of local treatment can be carried out with minimal laboratory procedures. When laboratory facilities and personnel are limited, as they frequently are, particularly in the smaller hospitals, the hematocrit reading, the value for hemoglobin, the erythrocyte count, the levels of blood chlorides and plasma proteins and the output of urine, together with the clinical condition of the patient, can serve as a good guide to fluid therapy.

Shock: Burned patients are carefully observed for signs and symptoms of impending shock before the blood pressure begins to fall. The blood pressure and pulse are recorded every half hour for the first twenty-four hours or until the danger of shock has passed.

Primary shock occurs from vasomotor reaction, and is caused by pain, fright, injury, etc. It develops promptly, while *true shock or secondary shock* usually develops slowly. In the presence of severe burns primary shock may merge into secondary shock. There is little capillary permeability in cases of primary shock, as it does not produce hemoconcentration. This local treatment with Modified M. C. V. Ointment and compression dressings almost immediately relieves the pains and chilly sensations; therefore, the local treatment is an important factor in preventing shock or in helping to relieve it if it is already present.

Secondary shock seldom occurs under two or three hours except with the more severe burns. In the early stages of such burns there is often no fall of arterial blood pressure. Even before there is any fall of blood pressure or evidence of beginning circulatory failure, the incipient stage of true shock may be detected by slight hemoconcentration and a diminished output of urine. *The presence of hemoconcentration in the early stages will serve to differentiate true shock from either hemorrhage (with hemodilution) or primary shock. Whenever possible, the best treatment of shock is prevention.*

Falling plasma protein levels and progessive hemoconcentration usually indicate impending shock, even though the blood pressure is still normal. If the output of urine is good during the early phase, shock is not so likely to be impending. In the more serious cases a retention catheter should be inserted and the hourly output of urine recorded. An adequate output indicates that sufficient fluids are being given; an inadequate output indicates either insufficient fluids, beginning shock or possible renal damage.

Shock should be anticipated in any patient with as much as 20 *per cent of the body surface involved in second-degree burns or* 10 *per cent of the body surface involved in third-degree burns. Therefore, immediate steps should be taken to prevent it.* Shock may occur in children or debilitated persons with as little as 10 per cent of the body surface involved in a deep blistering burn. Oxygen is indicated in the treatment of shock.

TRANSFUSIONS OF BLOOD ARE ESSENTIAL IN THE EARLY OR SHOCK PHASE OF SEVERE BURNS. The tendency now is to use more blood to combat or pre-

vent shock from burns. It is my opinion that the main reliance in combating or preventing shock should be placed upon blood supplemented with adequate amounts of electrolytes. Of course, plasma, serum albumin, dextran, or various combinations of them supplemented with electrolytes, may be used for this purpose; however, it is better to use them in conjunction with blood. As much as 1,500 cc. of blood, or more, may be indicated for the most severe burns during the first twenty-four hours. Anemia, which frequently occurs in the intermediate period, is not so common when blood transfusions are given in the early period. When anemia and hypoproteinemia occur, there should be no delay in giving frequent blood transfusions.

Dextran has been used by a number of surgeons in research centers in the treatment of shock due to burns. The reports on this preparation have been favorable so far as the prevention and treatment of shock are concerned, but some reactions have occurred, and the serum protein level shows a marked fall after its use. Further trial is indicated, therefore, before final decisions are made concerning its merit.

It is essential to perform typing and cross matching before giving dextran. It is possible that some blood substitute will eventually replace plasma in the treatment of shock from burns because of the number of cases in which hepatitis has followed its use.

The following agents, supplemented with electrolytes, are most frequently used to combat or prevent shock: (1) blood; (2) plasma; (3) serum albumin; (4) dextran, and (5) various combinations of these.

In a case of shock it is essential that most or all of the electrolytes be given intravenously, but when shock is not a factor most investigators agree that the electrolytes and alkaline solutions should be given orally unless there is some contraindication, such as vomiting, etc.

During the first two days, and particularly during the shock phase of severe burns, considerable edema is observed. In the period between forty-eight and ninety-six hours there is usually considerable reabsorption, and it is during this period that caution must be observed not to give too much fluid. In case of respiratory burns this caution is also important, as too much fluid may result in pulmonary edema.

Plasma is indicated in the treatment of severe burns. Its main usefulness is exercised during the first seventy-two hours, and most of the plasma should be given during the first twelve. A number of different methods are available for determining the required amount of plasma, but the following method will usually be found satisfactory: Give 50 to 75 cc. of plasma for each 1 per cent of the body surface involved in a blistering or deep burn (this method is preferred, especially if the patient is seen early, as the hematocrit reading may still be normal).

The amount of plasma to be given during the second twenty-four hours will usually be considerably less than that given during the first twenty-four hour period, often about one-third or one-half. During the third twenty-four hours the amount of plasma will usually be about 25 per cent of that given during the first such period, provided it is still indicated. The amount of plasma should be varied according to the clinical condition of the patient, together with the hematocrit reading and other laboratory data.

In the presence of any severe burn, blood, plasma, electrolytes or some other appropriate agent to prevent or combat shock should be started within a few minutes after the patient reaches the emergency room, phlebotomy being performed if necessary. Do NOT WAIT UNTIL THE BLOOD PRESSURE BEGINS TO FALL BEFORE INSTITUTING ADEQUATE EARLY GENERAL TREATMENT. Even though the patient may not present symptoms of shock when first seen, the surgeon of experience will realize the potentiality of shock and will act promptly to carry out both the early general and the early local treatment. In order to avoid difficulties, it is necessary to comprehend the seriousness of the condition and to understand that profound physiologic changes are taking place.

FROM A PRACTICAL STANDPOINT THE OUTPUT OF URINE IS THE BEST GUIDE TO THE ADEQUACY OF THE FLUID INTAKE. Enough fluids should be given to maintain a urinary output of about 1000 cc. daily. Too much emphasis cannot be placed upon keeping a correct record of fluid intake and output.

EVERY EFFORT SHOULD BE MADE TO ENCOURAGE THE PATIENT TO TAKE AN ADEQUATE AMOUNT OF FLUIDS AND ELECTROLYTES BY MOUTH. When this cannot be accomplished, the fluids and electrolytes should be given through a duodenal tube, provided

there is no vomiting or other contraindication. Tube feedings are being used more frequently for patients with severe burns, as it is often difficult to keep such a patient in a state of good nutrition by oral feedings alone, particularly if special nursing care is not available.

If the patient is able to take food orally during this early period, the diet should be soft; a high carbohydrate, high protein (200 to 400 gm. daily) diet, with adequate amounts of vitamins, particularly vitamin C and the vitamin B complex. If the patient cannot tolerate a diet of sufficient proteins, then intravenous proteins should be supplied. A determined effort should be made to have these patients gain weight.

Intermediate and Late General Treatments: The intermediate general treatment and the late general treatment will be described together. They are the same, except that there is more urgency in carrying out the intermediate general treatment.

IN THE PAST, NOT ENOUGH EMPHASIS HAS BEEN PLACED ON ADEQUATE NUTRITION IN THE TREATMENT OF BURNS. REGARDLESS OF THE LOCAL METHOD EMPLOYED, SATISFACTORY HEALING WILL NOT BE OBTAINED IF THE PATIENT CONTINUES IN A POOR STATE OF NUTRITION.

The diet listed under "early general treatment" should be continued during the intermediate and late periods. Most diets during these periods of healing are too low in proteins, carbohydrates and vitamins. The patient should be encouraged to take the full diet, as that, together with frequent blood transfusions, is the most effective way to maintain satisfactory nutrition. REPEATED BLOOD TRANSFUSIONS ARE ESSENTIAL IN THESE PERIODS. Liver (administered parenterally) and iron are usually indicated if the burn is severe. During these stages, at least, weekly determinations of the hematocrit reading, the plasma protein level, the erythrocyte count, the hemoglobin content and the value for blood chlorides will be necessary.

Toxemia: Toxemia is often a factor in extensive deep burns. Though it may occur in the early phases, before infection of any consequence has had time to take place, it is always increased by infection. If the burn is not too deep and extensive, and the patient is seen early and treated adequately by the method outlined, toxemia is not ordinarily a great problem. When toxemia with high fever develops it should be treated promptly and energetically, as the patient cannot tolerate high fever of long duration.

CONCLUSIONS

1. Burns are surgical emergencies. Early general and early local treatments should be carried out promptly and simultaneously.
2. The extent and depth of the burns should be recorded on the first examination and the progress of the burns noted at all subsequent dressings.
3. Modified M. C. V. Ointment with adequate occlusive pressure dressing is an excellent method of local treatment. These dressings should not be changed often. This method can be employed with minimal laboratory procedures.
4. It is essential to give sufficient fluids to maintain an adequate urinary output.
5. DEBRIDEMENT OF SEVERE AND EXTENSIVE BURNS IS TO BE CONDEMNED.
6. When second degree burns involve as much as 20 per cent of the body surface, shock should be anticipated. Shock may develop with as little as 10 per cent of the body surface involved in deep burns, particularly in children or debilitated persons.
7. TRANSFUSIONS OF BLOOD ARE INDICATED IN THE EARLY TREATMENT OF BURNS, REGARDLESS OF THE HEMATOCRIT READING. The main reliance in the prevention and treatment of shock should be placed upon blood supplemented with electrolytes. Plasma, serum albumin, dextran, or various combinations of these, supplemented with electrolytes, may be used to prevent or combat shock; however, it is better to use them in conjunction with blood. Frequent transfusions of blood are indicated in the intermediate and late treatment of burns; they improve he plasma protein level more rapidly than do plasma transfusions.
8. Plasma is indicated in the treatment of severe burns. It should be given early and in adequate amounts. Its main usefulness is observed during the first seventy-two hours, and most of it should be given in the first twelve hours.
9. Large quantities of electrolytes-alkaline solutions are usually indicated, and whenever possible they should be given by mouth. Enough

fluids should be given to maintain an output of at least 1000 cc. of urine per day.

10. Burned patients should be given a high carbohydrate, high protein (200 gms. or more daily) diet with adequate vitamins, particularly vitamin B complex and vitamin C, until healing takes place and throughout the plastic surgical procedures.
11. Regardless of the local method employed, satisfactory healing will not be obtained if the patient continues in a poor state of nutrition.
12. Infections may be a serious problem in the presence of neglected second-degree burns or extensive third-degree burns. When second-degree burns are seen early and treated by the method outlined, infections are not ordinarily of major importance.
13. The grafting of deep burns should be started early, usually not later than the 10th to 14th day, with dermatome split-thickness (thin) grafts. When sufficient large split-thickness grafts can not be obtained, the grafts should be cut in postage-stamp size. If a sufficient number of these small split-thickness grafts can not be obtained in conjunction with pinch grafts, then isografts (hemografts) should be inserted between the autografts.
14. For the correction of contractures and deformities, I recommend dermatome split-thickeness (thick) grafts: Z plastics; releasing incisions and pedicle grafts as indicated.

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Medical Arts Building

ACUTE BARBITURATE INTOXICATION— WITH CASE REPORT*

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It has been said, curiously enough, that the mode of suicide often follows certain cycles. This may well be true, for the incidence of barbiturate poisoning is constantly increasing and seems to be in current vogue. More and more do we hear of deaths or serious intoxications due to this drug. In New York City there were 197 deaths in 1945 as contrasted with only 42 deaths in 1939[1] from poisoning of this type. The United States Tariff Commission reports a steady increase in total production of barbituric acid derivatives over the past 12 years. Their figures show a production in 1940 of 269 tons of barbituric acid derivatives, while in 1951 there were 394.5 tons produced. This is an increase in production of 68% in eleven years.[2] Sleeping pills in 1950 caused about 1000 deaths in this country. This is a far higher toll than that of any other poison or of all narcotics combined. During the past four years an average of 25 deaths occurred each year in the State of Virginia from barbiturate intoxication. Dr. Sidney Kaye, of the State Toxicology Laboratory, tells me that his laboratory receives about 50 emergency calls a year from Richmond and the nearby vicinity for blood barbiturate determinations. In an 18 month period beginning January 1, 1951, and ending June 30, 1952, his laboratory has performed 109 analyses for barbiturates and derivatives.[3] It would seem appropriate that we review briefly the pharmacology of this drug and the means of combating excessive doses.

PHARMACOLOGY

The term barbiturate includes the large number of derivatives of barbituric acid. Some are characterized by their short duration of action such as seconal and pentothal, others by their longer activity as phenobarbital, barbital, and nembutal. Their major function is to depress the central nervous system and any degree of depression from slight sedation to deep coma can be obtained. The intensity of action depends not only upon the particular barbiturate selected, or the dose and route of administration employed, but also in a large measure upon the reflex excitability of the patient's nervous system.

The medullary-respiratory center is directly depressed by large doses of barbiturates and the rate and depth of respirations are decreased. Death often in barbiturate intoxication is due to respiratory failure.

Ordinary hypnotic doses of barbiturates have little effect on the cardio-vascular system but large amounts may result in peripheral vasodilatation with drop in blood pressure, even to shock levels. At this stage the renal blood flow is decreased and urine output is diminished, thus interrupting an important channel for excretion of the drugs.

In the intestinal tract these drugs are readily absorbed, the speed varying with the type. Certain of the drugs are destroyed by the liver while others are excreted by the kidneys, and a few are partially affected by both organs.

It is apparent, then, that in over-dosage of barbiturates a serious vicious cycle may develop with depression of the central nervous system, coma, fall in blood pressure, shock, impaired renal flow and diminished excretion of the drug by the kidneys.

ETIOLOGY OF ACUTE BARBITURATE INTOXICATION

The causes of acute intoxication by barbiturates may roughly be divided into three groups. First, the suicidal attempt in which the patient deliberately takes an over-dose of the drug. The second group are those who accidently take more than is safe. In this group belong the surprisingly large number of patients, who, after taking their accustomed dose fail to develop deep sleep. In this twilight zone, the individual does not exhibit normal inhibition and reason, and mechanically or automatically takes all the remaining tablets.

Finally, are the patients who combine alcohol and barbiturates. These two agents have a synergistic effect which results in profound intoxication and narcosis. Smaller doses by themselves not sufficient to cause toxicity produce serious poisoning and often

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death when taken together. Jetter and McLean[5] and other investigators have regularly been able to cause death in experimental animals by combining non-fatal doses of each drug. Pharmacologic studies, including those of Drs. Haag and Ramsey at the Medical College of Virginia, have shown beyond doubt that the lethal dose of any barbiturate is greatly reduced, often as much as 50%, when given with otherwise small and non-toxic amounts of alcohol.[4]

Signs and Symptoms

The signs and symptoms of acute barbiturate intoxication are extreme lethargy progressing to severe depression of the central nervous system and coma. Respirations are slow and there is capillary dilatation, and shock may develop. Reflexes are sluggish, urine formation is decreased, and there is usually cyanosis. The diagnosis is often made from the history and physical findings or by the presence of the drug in gastric contents, blood or urine. Often an empty or partially filled bottle with sedatives is found near the patient and may give helpful clues.

The prognosis in barbiturate poisoning depends upon many factors. Paramount among these are the amount of drug ingested, the type (whether short or long acting), the duration of time between coma and the time therapy begins, and especially important, the presence or absence of alcohol occurring concomitantly. The general condition of the patient before poisoning is important as well as the incidence of complications such as bronchopneumonia, atelectasis, cardiac arrhythmias or irreversible cerebral tissue changes. Blood levels of four milligrams per cent are considered excessively high but death from barbiturate intoxication has often occured with levels of only one milligram per cent.

The level of barbiturates in the blood, however, may be misleading unless the type of drug is known. A high level of a short acting drug would be less dangerous than of a long acting variety. The presence of barbiturates in the blood 24 to 36 hours after ingestion is in itself evidence that the drug ingested was a long acting type.

Treatment

There is much difference of opinion concerning the treatment of this condition. Certain general measures, enormously important, have universal acceptance and these will be mentioned first. The patient when first suspected of having barbiturate intoxication should have a gastric lavage with the stomach contents saved for toxicological studies for the presence or absence of the drug. The stomach tube should be left down so that liquid feedings may be given at a later time. Absorption of the drug remaining in the bowel may be reduced if a saline cathartic is left in the stomach. Blood should be drawn for barbiturate levels. Oxygen is necessary since adequate oxygenation of the central nervous system is imperative. An efficient aspirator should be at hand—constantly ready to suck out mucus, vomitus, and saliva which may plug a bronchus at any moment without warning. An endotracheal tube should be inserted if signs of laryngospasm develop. The patient should be turned at thirty minute intervals regularly and the foot of his bed elevated to help prevent development of atelectasis and pneumonia. Thorough examinations of the chest must be made repeatedly to detect early the presence of these complications. Penicillin should be started before aspiration or hypostatic pneumonia develops. Fluid balance must be maintained by appropriate fluids given intravenously and by clysis, and urine output checked by indwelling catheter. Total barbiturate excretion may be measured by saving all urine collections. Nourishment can be reasonably well maintained by tube feedings and intravenous glucose.

There is considerable variation in the specific therapy in acute barbiturate intoxication. Eloquent and convincing articles have appeared in the medical literature supporting many different antidotes while damning others.[1,6,7,8,9] No large and well controlled series comparing the various antidotes has yet appeared, and when confronted with the problem the average physician is easily confused as to which program to follow.

Numerous authors believe that the cerebral stimulants are not helpful or necessary and that therapy should be centered on maintenance of free pulmonary ventilation together with the general measures, such as mentioned above. Other groups advocate coramine in large doses giving as much as 10 c.c. intravenously followed every five minutes by 5 c.c. for an hour. This is followed by booster doses of 5 c.c. every thirty mintues until the patient can answer questions.

The amphetamines, Benzedrine and Dexedrine, are favored by many for specific therapy because these drugs exert powerful cortical and respiratory stim-

ulation. Massive doses may be given without causing convulsions or other untoward reactions. As much as 2000 mgm. have been given over a 24 hour period without deleterious effects to the patient. Schedules of 10-20 mgm. intravenously repeated as often as every five minutes are recommended. Dick,[1] Friedman and Harris[8] and others use intravenous doses up to 100 mgm. every half hour until the patient responds and they report good results. Reed, Driggs, and Foote,[6] however, report a high incidence of cardiac arrhythmias and some cardiac deaths following large doses of the amphetamines. They stress the powerful stimulus of these drugs on the myocardium which may lead to fatal arrhythmias. Hypertension and arteriosclerosis are not thought to be contraindications although the blood pressure may rise sharply following a moderate dose. Repeated injections seem to develop a tolerance to the pressor effect of the drug and after several injections larger doses can be given without appreciable rise in the blood pressure.

Picrotoxin is thought by many to be the drug of choice in treating barbiturate poisoning. This drug is a powerful central nervous system stimulant. It stimulates the medulla, midbrain, and to a less extent the cerebral cortex and cord. The action is most prominent in the medulla, and the vomiting, respiratory, and vasomotor centers are all stimulated. Large doses may cause convulsions. The drug is rapidly excreted and after twenty minutes all traces of the drug disappears from the blood stream.

During the past twenty years this drug has had an increasing popularity in combating the effects of excessive barbiturates. No didactic statement regarding dosage can be made; but the drug is given until return of the corneal and pupillary reflexes. Repeated injections may be necessary as the patient often will lapse back into coma since the effect of the drug as mentioned above is only of short duration. The drug should be given slowly and intravenously. The patient should be observed closely during the injection for signs of muscular twitching or for return of any reflexes. This routine should be repeated every 30 to 60 minutes until the patient remains conscious or at least responds to stimuli. It is often overlooked that a patient with barbiturate intoxication is extremely tolerant to picrotoxin and during treatment may receive amounts which under normal conditions would be fatal. Goodman and Gilman, in their textbook on pharmacology, refer to a case successfully treated with 671 mgm. of the drug.[10]

The following case is presented to illustrate severe barbiturate intoxication complicated by alcoholism and bronchopneumonia, and responding to the general measures already mentioned together with massive doses of picrotoxin.

CASE REPORT

S. C., a 45 year old white housewife, had been in her usual health until five days before admission to the hospital. At that time she went to New York, drank heavily and ate and slept little. She returned to Richmond on March 13, 1951, and was said to have had at least three drinks of whiskey that evening and sat up much of the night with a sick dog. In the morning when her husband left to go to work she was apparently asleep and he did not disturb her. According to her maid she did not awaken during the day and at six in the evening could not be aroused. She was first seen at seven and was deeply comatose and cyanotic. She was brought in this condition to the hospital.

On admission she was a well developed, well nourished white woman who was cyanotic and deeply comatose. She made no response to painful stimuli. Respirations were shallow, noisy, and the rate was 20. Her lungs were clear to percussion but rhonchi were heard throughout. The pulse was 100, the rhythm regular. The blood pressure was 118-80. Reflexes were very sluggish but equal. Examination otherwise was not remarkable.

Admission laboratory studies were within normal limits. Blood drawn for barbiturate level was later reported as 6 mgm. per cent. A blood alcohol level unfortunately was not done. The gastric contents were reported as positive for the presence of barbiturates.

The patient was given oxygen immediately, the foot of her bed elevated, penicillin was started, and an aspirator was used periodically to remove phlegm, saliva, and mucus from her trachea. She was turned regularly, fluids were given by vein, clysis, and stomach tube and the urinary output was checked by an indwelling catheter.

In view of the depth of her coma she was started on picrotoxin in doses of one to two cc. slowly by vein in concentrations of three mgm. per cc. This was given approximately every one to two hours for about

thirty-six hours but without response by the patient. During this time she developed signs of bronchopneumonia and her temperature rose to 104°.

By this time the patient's general condition was extremely poor. Her blood pressure on several occasions was as low as 80/50, her respirations were 12 to 15 and Cheyne-Stokes in type. It was decided to give larger doses of picrotoxin and 13 cc. of the drug was given by vein. At this point she developed twitching of her upper lip and the drug was stopped. Shortly afterwards she was again comatose and an hour later another 10 cc. was given. This was discontinued when she began moaning. Later she vomited. Approximately every one or two hours thereafter the patient was given 10 to 30 cc. of picrotoxin always slowly and always discontinued at the first sign of any response. These reactions consisted of muscular twitching, moaning, vomiting, or moving an extremity, and, later, opening of the eyes for brief intervals. The effects of the picrotoxin were always of short duration and the patient would lapse back again into coma.

Twenty-four hours later after the drug had been started in the large doses, during which some 263 cc. (or 789 mgm.) of picrotoxin had been given, the patient began to respond noticeably to the drug to the extent of opening her eyes, smiling, or coughing. Twelve hours and 75 cc. later she was awake enough to sip small amounts of coffee from a cup and to give feeble responses to simple questions.

At this time the patient was started on 5 to 10 mgm. of dexedrine sulfate at 4 to 6 hours intervals and she recovered uneventfully several days later. Her pneumonia cleared up promptly.

During the period of coma which lasted 110 hours after entry to the hospital the patient received a total of 1473 mgm. of picrotoxin. 1317 mgm. of this drug, however, were given over only a 66 hour period.

Upon recovery the patient stated that she had taken "several" phenobarbital tablets upon going to bed and did not recall taking any more. Suicidal intent was vigorously denied. Five days after admission, when she was conscious and oriented, her blood barbiturate level was still 2 mgm. per cent. This would indicate clearly the long acting nature of the drug as well as the slowness of its excretion.

Summary

In summary, the use of barbiturates and their derivatives is steadily increasing. This is evidenced by a 68% increase in the total production of this drug in the year 1951 over that produced in 1940. Poisoning by barbiturates whether accidental or intentional likewise is increasing. The remarkable synergism between alcohol and barbiturates is stressed and the dangers of their concomitant use are emphasized. Severe narcosis or even death may occur when only one-half the lethal dose of each drug is combined. Many poisonings result from ignorance of this fact.

Treatment of barbiturate intoxication consists of careful adherence to such general measures as gastric lavage, adequate oxygenation, prophylactic use of antibiotics, prevention of atelectasis and aspiration by keeping a patent broncho-tracheal air way and frequent turning, and maintaining proper fluid balance. Specific therapy is discussed, including the use of the amphetamines and picrotoxin. Picrotoxin, in the author's opinion, is the drug of choice. This powerful central nervous system stimulant can be safely given if discontinued promptly at the first signs of muscular or nervous stimulation. Its action is short lasting since it is excreted in about 20 minutes. For this reason and because in the presence of barbiturate intoxications larger doses are easily tolerated, picrotoxin can and should be given in quantities sufficient to cause stimulation. Such large doses should be given almost hourly until the patient remains responsive between injections.

The patient deeply intoxicated by one of the barbiturates, like the person in diabetic coma or in other medical emergencies, requires constant and careful nursing and medical attention. Such personal supervision and vigorous treatment will influence greatly the chances of his survival.

A case of severe barbiturate intoxication complicated by alcoholism and pneumonia successfully treated by massive doses of picrotoxin is presented.

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VIOFORM—ITS USE IN DERMATOLOGIC THERAPY

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"Vioform"* (R) 5-chloro-7-iodo-8-hydroxyquinoline, is a well known drug, used as an amebicide, as a dusting powder for wounds, and for monilial and trichomonas infections of the vaginal tract.

Although the preparation has been used for years by European dermatologists, and although introduced into dermatologic therapy in this country by Sulzberger as far back as 1929, only a scant literature reference has accumulated with the use of vioform in the treatment of diseases of the skin.

The mechanism of action of this drug is unknown, but it has been found effective in a wide variety of dermatoses, particularly in those due to fungus infections, or caused by such pyogenic organisms as the streptococcus and staphylococcus. The drug has also been found useful in a number of conditions which are complicated by secondary infection with pyogenic organisms and fungi. Vioform has thus proved useful in the treatment of macerated and secondarily infected fungus infections of the skin, herpes simplex, impetigo, sycosis vulgaris, eczematous eruptions, atopic dermatitis, psoriasis, particularly where there is maceration in the body folds, pruritus ani and vulvae, and seborrheic dermatitis.

Vioform has been used with favorable results by a number of investigators[1,2,3,4,5,6,7,8,9,10,11]. Saunders[12], in a study of 14 cases, was unfavorably impressed by an inordinately high incidence of irritation and sensitization.

It is believed that an experience involving the use of vioform in a washable ointment base will be of interest. Over 492 cases, comprising a wide variety of dermatoses, were treated. Of these cases, 318 have been followed sufficiently to determine the value of treatment.

The results of treatment with an ointment containing 3% vioform powder in Unibase †(R) have been so satisfactory, it is felt that certain conclusions regarding its efficacy may be drawn from a study of these cases.

The patients ranged in age between 3 months and 88 years. There were almost equal numbers of males and females.

The following table presents the results of treatment in the 318 cases on whom adequate follow-up observations were available.

The results have been classified as follows: Good results, in which it was concluded that the vioform ointment played a major part in the disappearance of the eruption; doubtful results, in which improvement was noted, but the patient either experienced a recurrence, or other remedies were necessary to bring about final healing; failure, in which the eruption was either unimproved or became worse.

Diagnosis	Number	Good	Doubtful	Failed
Atopic Dermatitis	10	5	3	2
Dermatophytid	52	44	3	5
Eczematous Dermatitis (Unclassified)	18	8	7	3
Eczematous Dermatitis (Hands)	35	24	4	7
Infec. Eczematoid Dermatitis	28	25	3	
Impetigo	13	10	2	1
Neurodermatitis (Circumscribed)	3		3	
Nummular Eczema	12	10	1	1
Pruritus Ani & Vulvae	12	9	1	2
Psoriasis	8	4	1	3
Pyoderma	28	25		3
Seborrheic Dermatitis	44	32	3	9
Sycosis Vulgaris	8	8		
Ulcer of leg (Unclassified)	4	4		
Varicose Eczema	19	14	3	2
Varicose Ulcer	4	4		
Miscellaneous Dermatoses	20	Discussed individually below.		

Twenty patients with miscellaneous dermatoses were treated topically with the vioform ointment.

Two cases of dyshidrosis involving the fingers responded promptly. Two patients with infectious eczematoid dermatitis originating in radio-dermatitis, were treated with good results. In one such case the result was doubtful. One case each of multiple paronychias, herpes simplex, infected burn injury, furunculosis, vesiculo-bullous erythema multiforme, infected wart, sulfonamide dermatitis, senile pruritus, infected molluscum contagiosum lesions, were classified as good results, as were two cases of sec-

*Vioform is manufactured by Ciba Pharmaceutical Products, Incorporated, Summit, New Jersey.

†Unibase is manufactured by Parke, Davis and Co., Detroit 32, Michigan.

ondary infected poison ivy dermatitis. It is believed that the ointment was useful in preventing reinfection of the adjacent hair follicles in the case of furunculosis. Two cases of chronic discoid lupus erythematosis, one of chronic paronychia, and one of acne necrotica were clearly failures.

Irritation was noticed in seven cases, four of which were dermatophytids, one a case of psoriasis, and two pyodermas.

Comment

Vioform is singularly free of primary irritation. It will be noted that only seven cases showed evidence of irritation due to the ointment. No cases of sensitization were encountered in the group of cases studied, although sensitization can be anticipated in a small percentage of cases. This is true of any topical application.

The drug may be used without fear of incompatibility with such substances as mercury, tar, sulfur, and resorcin. On numerous occasions, it was used following treatment with these drugs, or these substances were used after the application of vioform. Systemic toxicity is lacking.

One unfortunate quality of the drug is its capacity for staining the hair and clothing, but this is minimal if certain precautions are taken. Application of the ointment to the affected part, followed by bandaging, is sufficient to protect the clothing and bed-clothing.

Because of staining, it is somewhat inconvenient to use vioform in the vicinity of the ears, face, and back of the neck. However, the results in many cases of eruptions in this region have been so satisfactory that the attendant inconvenience is often justified.

It must be pointed out that the results reported are in the nature of clinical impressions, which are, however, often very trustworthy. It is often difficult to arrive at a strict etiologic diagnosis in many dermatoses, since many eruptions are secondarily infected with fungi and cocci, irritated, and sensitized by local therapy, or because in many cases the specific cause is unknown, or due to widely diverse and changing etiologic factors. Practically all cases in which the ointment was used, outside of the miscellaneous group, were improved by the use of vioform. In many cases the results were spectacular and rapid, and in others, steady and progressive, but in most of them there was improvement. In many of the cases classified doubtful, there was usually some initial improvement, but progress was unsustained, and it became necessary to use other medications. It was the impression that vioform was often instrumental in initiating the healing process, but was unable to sustain it after it passed a certain point, necessitating a change in therapy. Possibly some of the improvement was due to reasons difficult to evaluate, such as a change of physician, a change in the emotional status of the patient, or the natural evolution of the disease process.

It was impressive to see a number of eruptions of various types, which had not responded to a wide variety of treatment regimes over a period of months or years, quickly improve under topical vioform therapy. This was particularly striking in cases of nummular eczema, seborrheic dermatitis, eczematous dermatitis of various kinds, especially eczemas of the hands and ears, infectious eczematoid dermatitis, pruritus vulvae and ani, and varicose ulcer and eczema.

In some instances in which there was recurrence, the patient was at least free of his disturbing symptoms for periods of weeks or months before relapse. In these cases, the origin of the eruption was often obscure, and recurrences probably represented a return to former habits, exposure to irritants previously encountered which precipitated the original condition, or a repetition of unfortunate emotional stimuli.

Summary and Conclusions

Vioform incorporated in a washable base is an exceedingly versatile, and effective remedy in topical therapy. Instances of irritation were few, and in this series of cases there were no examples of sensitivity, although these could be anticipated in a larger series.

Vioform as a topical application is particularly useful in eczematous dermatitis, eczemas of the hands, and pruritus ani and vulvae.

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New Hormone Ointment Aids in Treatment of Skin Disorders.

Hydrocortisone (Compound F) acetate ointment (one of the newer adrenal hormone preparations) has proved of definite value in the treatment of certain skin disorders, according to Drs. Marion B. Sulzberger and Victor H. Witten, New York, and Dr. C. Conrad Smith, Valley Stream, N. Y., in the Feb. 7 J.A.M.A.

Satisfactory improvement following topical use of the ointment was obtained in 20 of 30 cases of atopic dermatitis, and in 14 of 28 cases of such other skin afflictions as psoriasis, contact dermatitis and eczema.

Persons with various types of long-standing skin disorders were treated with this new ointment for periods ranging up to eight months. In most cases, the conditions were known to be refractory to many forms of topical therapy.

In those cases where the response was favorable, improvement usually was apparent within 24 to 48 hours, although it sometimes was not obvious for a week, the doctors stated. Improvement was, for the most part, maintained during the entire time the ointment was used. When application of the ointment was discontinued, the therapeutic effects usually wore off within four to five days.

"While in most of the cases atopic dermatitis improved more than 75 per cent, and some few approached almost complete healing, this progress was not always continuous," the doctors added. "In spite of continued and regular applications of the ointment, there were occasional mild flare-ups of the dermatitis, following which improvement was again noted.

"It is of particular importance that in no case was there any clinical evidence whatsoever of adverse systemic effects produced by topical application of the drug. Furthermore, there were no instances of allergic contact sensitization to the hydrocortisone acetate.

"It is fortunate and advantageous that these ointments are aesthetically and cosmetically acceptable. They do not stain skin or clothing, generally do not sting or burn when applied, and do not have a disagreeable odor (if any at all). Actually, when well rubbed in, they are hardly visible."

As with any new therapeutic agent, prolonged and careful observations should be made to discover if there are any alterations in bodily physiology or biochemistry as a result of the topical applications, the doctors stressed. In addition, further studies should be made to elucidate the precise mechanisms by which the local therapeutic effects are achieved.

The ointment is available on physicians' prescription only.

RAPIDLY FATAL HODGKIN'S DISEASE

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Hodgkin's disease rarely occurs in an acute rapidly fatal form. A case of approximately five weeks duration from onset until death, in which fever was the predominant manifestation, is reported.

Case Report

N.M.P., a 75-year old white housewife, was hospitalized on December 25, 1950, because of fever for approximately three weeks. The patient had been seen in the home eighteen days previously at which time fever had been present for one week. The physical examination was negative. Penicillin (300,000 units) was administered intramuscularly and 250 mg. of aureomycin were prescribed for 8 doses. Nothing further was heard until two days before admission when her husband reported that no improvement had taken place, and that she was now too weak to leave her bed. A temperature record kept by the patient's husband for several days indicated a double quotidian intermittent curve during each twenty-four hour period with peak levels of 102°F. and 103°F. She was reexamined and again no cause was found for the fever. A urinalysis was negative except for considerable albumen. Chloromycetin was started in a dose of 250 mg. every four hours. A total of 4 gm. was administered without change in the febrile course. There were no specific complaints aside from a slight nonproductive cough and poor appetite. There was a tendency to drowsiness. Her husband noted that when the temperature rose to high levels the patient became confused and disoriented.

This woman had been a patient of the author since 1947. She was a small, frail lady who always complained of weakness, lack of appetite and poor memory. No striking abnormalities other than generalized arteriosclerosis and a mild postoperative hypothyroidism (thyroidectomy in 1921) were noted. Bronchopneumonia necessitated hospitalization in March, 1947, but there was complete recovery after a rather stormy though uncomplicated illness. She had been seen infrequently thereafter, but usually for minor respiratory infections. A mild cystitis without fever responded to a sulfonamide drug in August, 1950.

The physical examination on admission revealed the temperature to be 100°F., the pulse 86, the respiratory rate 20, and the blood pressure 130/80. The patient was a small, thin, pallid elderly woman in no distress though somewhat drowsy and confused. The skin was dry and scaly, but there was no eruption or icterus. Sclerae were clear. Pupils were contracted and unreactive. Fundi were normal. Mucous membranes were pale and dry. Tongue was smooth. Teeth were artificial. Throat was negative. Neck was supple. There was a thyroidectomy scar. No superficial glands were palpable. Breasts were atrophic and contained no masses. Heart and lungs were normal. Abdomen was moderately distended but peristalsis was normally active. Liver, spleen and kidneys were not palpable. Percussion did not indicate liver enlargement. The pelvic examination was normal. There was a rosette of large external hemorrhoids. The rectum contained a soft yellow stool. Joints and extremities were normal. Neurological examination was essentially negative.

Laboratory examination disclosed a normochromic normocytic anemia, the red blood count being 3,050,000, the hemoglobin 58 per cent and the hematocrit 32 per cent. The total leucocytes numbered 5,450, 5,300, 5,400 and 8,500 on separate determinations. The differential was entirely normal. The sedimentation rate was 31 mm. in one hour (Cutler). A catheterized urine on admission contained albumen in abundance and a large number of hyaline, finely and coarsely granular casts but was negative otherwise. The blood nonprotein nitrogen was 45 mg. per cent and the plasma chlorides 610 mg. per cent. The stool was negative for occult blood. Spinal fluid was under no increase in pressure, crystal clear, contained no cells, 25 mg. of protein, and the serology was negative. Studies to determine an infectious basis for the fever were negative. These included four blood cultures, smear for malaria parasites, stool culture and bacterial agglutinations. Two roentgenograms of the chest were negative and a flat film of the abdomen revealed gaseous distention of stomach and intestines, but no shadows characteristic of obstruction.

The course in the hospital was one of rapid and progressive deterioration. There was a hectic spiking temperature with wide fluctuations varying from normal to 105°F. and accompanied by frequent, shaking chills (Fig. 1). The heart rate was disproportionately slow. Marked abdominal distention developed but the patient did not vomit and continued to pass gas and feces.

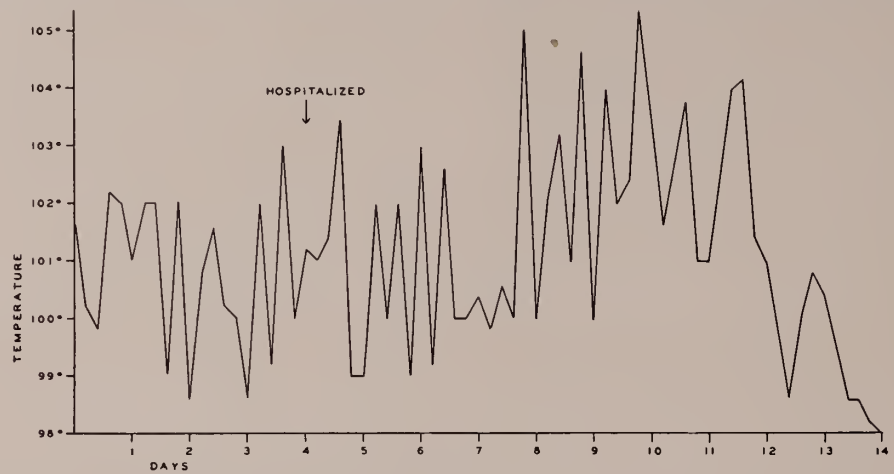


Fig. 1

On the premise that we might be dealing with an overwhelming septicemia, large doses of penicillin and streptomycin were administered intramuscularly. Supportive treatment included intravenous fluids and transfusions of whole blood. These measures failed to alter the patient's desperate plight. Stupor faded into coma as the signs of pulmonary edema made their appearance and the blood nonprotein nitrogen rose to 84 mg. per cent terminally. Death occurred on the twelfth hospital day which was the thirty-seventh day after the onset of the illness.

Postmortem examination* was performed one hour after death. The body was that of a small, elderly, poorly nourished woman. An estimated 200 to 300 cubic centimeters of straw colored fluid were present in each pleural cavity. Dense fibrous adhesions were encountered over the entire surface of the right lung. A healed tuberculous focus was found in the left apex. The right upper and middle lobes revealed areas of bronchopneumonia. The pericardium contained a small amount of fluid. The heart was essentially normal except for minimal coronary and aortic atherosclerotic changes. There was no ascitic fluid. The liver was normal in size and gross appearance. The spleen was slightly enlarged. Its cut surface was dark red and somewhat soft. The kidneys presented a finely granular surface but on section were not grossly abnormal.

The entire gastrointestinal tract was carefully examined. Only the stomach revealed pathological changes. The mucosa was pale and smooth, rugae being totally absent. The gastric wall was thickened. In the cardia, there was a small nodule projecting on the surface but covered by intact mucosa and surrounded by numerous hemorrhagic areas. No ulceration was observed. The stomach was considerably reduced in size and gave the general appearance of an atrophic gastritis. Gall bladder, pancreas, and genital organs were normal.

Miscroscopic examination: The lesions of Hodgkin's disease* were found in the spleen, liver, stomach and perigastric glands. Detailed study of the spleen revealed that most of the Malpighian bodies, though discernible, were widely separated, and in many there were extensive necrotizing changes of fibrinoid character near their center in juxta-position to the central arteriole. The changes in the pulp consisted of reticulum hyperplasia, infiltration of the wall of the sinusoids and trabeculae, filling of the sinusoids with a variety of cells including lymphocytes, large macrophages, desquamated endothelial elements, plasma cells and others not readily identified. The cellular composition of the pulp was characterized by extreme pleomorphism and the presence of numerous multinucleated giant cells of the Sternberg-Reed type which were found lying free in the sinusoids

*By Dr. J. H. Scherer.

*As reported by Dr. Paul Kimmelstiel. Sections were examined by Drs. Scherer, R. H. Follis, Jr., and Paul Kimmelstiel, who concurred in the diagnosis.

or in continuity with the reticulum. The basic structure of the liver was normal except in Glisson's triangles where numerous foci of infiltration with plemorphic round cells, some containing Sternberg-Reed cells, were noted. The stomach wall in the region of the fundus contained a large tumorous mass of granulation tissue apparently situated in the outer portion of the muscularis, infiltrating and destroying the muscularis proper and extending in one area into the thickened submucosa. This tissue was composed of fibroblasts, capillaries and a dense accumulation of pleomorphic cells essentially similar to those described in the spleen, as well as foci of fibrosis and small areas of necrosis. Another section through the stomach was not infiltrated by Hodgkin's tissue. Glands removed from the cardia revealed a complete loss of normal architecture which was replaced by the type of granulation tissue described previously.

Hodgkin's involvement was not observed in the myocardium, lung or kidney. Irregularly scattered foci of bronchopneumonia suggestive of aspiration were found in the lungs. In the renal cortex was noted acute tubular dilatation with flattening of epithelial cells considered to be evidence of terminal oliguria and associated metabolic changes. In addition there were small foci of pyelonephritic scarring, some fibrosis of glomeruli and moderate generalized vascular sclerosis.

The pathological diagnoses were listed as Hodgkin's granulomatosis involving spleen, liver, stomach wall and perigastric glands; atrophic gastritis; so-called shock kidney; aspiration bronchopneumonia; and healed tuberculosis in the apex of the left lung.

Comment

Hodgkin's disease[1] is a chronic, protracted, slowly progressive illness in the majority of cases. It has been estimated that in about 60 per cent the duration of life varies from two to six years, and in another 20 per cent survival is longer than six years. There are more rapid forms fatal after a few months. Death results from visceral involvement and its complications rather than cachexia. Acute fulminating types have been observed infrequently. Exodus[2,3,4] has taken place in as short a time as eight days, and fatalities have been reported several weeks after onset. These patients[4] may run a septic course with high fever and chills suggesting bacteremia. Profound toxemia, anemia, leucocytosis, hepatosplenomegaly, generalized lymph gland enlargement and jaundice may be present in this rapidly over-whelming form of the disease. In some atypical cases, however, antemortem diagnosis may be impossible due largely to the absence of accessible tissue for biopsy. On the basis of histopathologic study alone, it is practically impossible to separate the acute from the chronic case since there is no uniform correlation of tissue morphology and clinical course[5,6,7].

An antemortem diagnosis in our patient was impossible since the disease was confined solely to the abdominal cavity. Indeed, it was only after examination of microscopic sections obtained at necropsy that a pathological diagnosis could be positively established. Obviously cases of this type are for the most part of academic interest only. However, we should like to emphasize the importance of considering an acute form of Hodgkin's granulomatosis whenever the problem of a fulminating febrile illness is encountered.

Summary

A case of Hodgkin's disease fatal thirty-seven days after onset and characterized by a fulminating febrile course, profound toxemia, a moderately severe anemia, the striking absence of hepatosplenomegaly and peripheral or mediastinal lymphadenopathy has been reported.

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THE CLINICAL MANAGEMENT OF THE PULMONARY INVALID*

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The clinical management of certain chronic broncho-pulmonary diseases presents a problem of considerable difficulty. Such conditions as chronic bronchitis, pulmonary emphysema and fibrosis, and inoperable bronchiectasis are characterized pathologically by tissue alterations of the bronchial tree and adjacent lung parenchyma which are usually both progressive and irreversible. In addition, as these changes become widespread, they so interfere with normal pulmonary function that the respiratory demands of physical activity cannot properly be fulfilled and the eventual result is an invalid or semi-invalid state. The distressing nature of these conditions has served to surround them with abundant pessimism concerning their therapy.

In recent years, however, a firmer understanding of respiratory physiology and advances in antibiotic therapy has led to certain important considerations which promise a more successful management of these diseases.

The purpose of this paper is to review briefly these newer concepts as they apply to therapy, particularly in relation to antibiotics, oxygen administration, and mechanical methods of bronchial drainage.

ANTIBIOTICS

Among the most important of the recent advances in the treatment of chronic lung disease is the development of antibiotic therapy for bronchial infections. It has long been recognized that infection not only may be a predisposing factor in the development of chronic lung change, but that an inflammatory process superimposed on a previously chronically diseased bronchus may cause further histological damage and that after each episode of acute infection the patient may be left with his disease a little more advanced and his symptoms a little more distressing. For this reason, the effective control of acute exacerbations of bronchopulmonary infection is desirable, not only for therapy of the immediate problem but in an attempt to prevent progression of the underlying chronic disease. This control is better accomplished since the introduction of antibiotic therapy.

With the present availability of a variety of antibiotics, the question of the drug to be employed, its duration and dosage, poses difficult problems. For the control of acute bronchopulmonary infections which follow acute upper respiratory infections it is generally accepted that the broad spectrum antibiotics are preferable to penicillin. When aureomycin, terramycin, or chloromycetin are begun on the third or fifth day after the onset of an acute coryza or pharyngitis, prompt control of sinus or bronchial infections frequently follows. Since these drugs have no effect on the common cold itself, it is generally unprofitable to employ them at the onset of coryza since treatment may have to be terminated because of undesirable side effects at a time when their administration is especially indicated, that is, when the signs of pyogenic bronchial infection are manifest. Although penicillin is therapeutically effective in the control of infections due to gram-positive bacteria, the incidence of allergic reactions to this substance is notably higher than to either aureomycin, terramycin, or chloromycetin. The use of these latter drugs is not without danger, however, and in the *prolonged* treatment of chronic bronchial infection, which is frequently desirable in an attempt to eradicate chronic bronchitis or to arrest infection in bronchiectasis, penicillin is regarded as the drug of choice despite the possibility of allergic reactions, since the long-continued use of the broad spectrum antibiotics involves the risk of a new infection by organisms not previously pathogenic. The danger of allergic reactions to penicillin in these cases appears to be less menacing than persistent infection with a more highly resistant organism such as B. Proteus, B. Pyocyaneus, and yeast for which curative treatment is not now available.

In certain cases, bacteriological studies would seem to indicate the desirability of using combined antibiotic therapy for the simultaneous eradication of gram-positive and gram-negative organisms with a penicillin-streptomycin or penicillin broad-spectrum combination. In these instances, Barach and associates point out the danger of resistant organism invasion and feel that combined therapy is a greater risk than is the initial use of penicillin and the subsequent use of terramycin, chloromycetin, strep-

*Read before the annual meeting of The Medical Society of Virginia at Richmond, September 28-October 1, 1952.

tomycin or aureomycin for relatively brief periods to augument the effectiveness of long continued penicillin treatment. Penicillin is thus the mainstay of long continued treatment, not only to avoid infection with highly resistant organisms, but, also because infections of the lungs are for the most part due to gram-positive organisms.

While the broad spectrum antibiotics are found in effective concentrations in the broncho-pulmonary system after oral ingestion and can be used in the usual dosage by this route, the pulmonary tissue barriers established by chronic bronchial disease prevent the penetration of penicillen in sufficient amounts at the site of infection when administered by the parenteral route. For this reason, penicillin is usually employed by one of the various aerosol methods when used in chronic pulmonary disease. Particularly in long term therapy, the aerosol inhalation of penicillin in combination with a bronchodilator several times daily is by far the most effective, practical, and inexpensive method of long term control of bronchial infection.

Recent studies, however, have indicated that a comparatively new product, diethylaminoethyl ester of penicillin, now marketed under the name Neo-Penil, has a special value in bronchopulmonary infection, comparable in some respects to the effective employment of aerosol penicillin. As shown by Jensen, and confirmed by Heathcote and others, concentrations of this drug in the lungs after intramuscular injection are five to ten times higher than that of benzyl penicillin, and effective concentrations in the sputum have also been confirmed. It seems likely that this drug, usually employed in the intramuscular dosage of 500,000 units twice daily, will in some way replace aerosol penicillin in the treatment of chronic broncho-pulmonary disease.

Oxygen

The second important therapeutic measure in the management of chronic lung disease is oxygen administration. Long in use as a method of treatment for the dyspneic patient, this measure has undergone considerable change as a result of recent physiological studies. As pointed out by Dr. Guerrant in his excellent paper, respiration consists of two phases, ventilation, or the mechanical displacement of gases, and alveolor respiration, or the diffusion of gases through the alveolar capillary membrane. Clinically, interference with ventilatory function is marked by dyspnea, alveolar respiratory failure by hypoxemia. While dyspnea is clinically evident in its early stages, hypoxemia can only be recognized when it is of such degree as to produce cyanosis. Unfortunately, since cyanosis is usually evident only when as much as five grams of hemoglobin is in the reduced state, rather severe grades of hypoxemia may exist before the physician becomes aware of them and until a more simple measure of reduced hemoglobin is available hypoxemia may only be suspected by such signs as mental confusion.

Furthermore, both dyspnea and hypoxemia are often combined in the same patient. Obviously if ventilation falls below a certain point hypoxemia is sure to result and similarly the hypoxic patient is usually also dyspneic. The problem in any patient, however, is to understand the mechanisms producing the total picture. This means that factors giving rise to dyspnea must be treated mechanically—by aspiration of secretions, relief of bronchial spasm, etc.—while hypoxemia calls for oxygen. The usual error is to try to use oxygen for all parts of respiratory inadequacy. It is obvious, then, that pulmonary insufficiency resulting from tenacious secretions in bronchiectasis or from mechanical obstruction in broncho-spastic emphysema will not be benefited by oxygen alone until the ventilatory pathways are made patent, while in pulmonary fibrosis with thickening and inadaquacy of the alveolar capillary wall, oxygen may be of great benefit.

When oxygen is indicated in chronic lung disease, particularly emphysema and fibrosis, its administration is not without danger. It has long been noted that patients with pulmonary emphysema receiving oxygen frequently developed delirium, coma, and, at times, death. Recent investigations indicate that emphysema patients may develop respiratory depression during oxygen therapy with resulting retention of carbon dioxide. This in turn causes increased intracranial pressure, giving rise to the symptoms of oxygen intoxication. Cardon and others deny that such a condition exists and state that they find no ill effects in the use of 100% oxygen in such patients, but the preponderance of evidence seems to indicate that the cautious use of oxygen is the better part of valor. In a series of emphysema patients who were given oxygen by nasal catheter, beginning at one liter per minute the first day and increasing by one liter daily until a total of six was given, no undesirable effects were noted. This

method seems to be safe and desirable.

MECHANICAL DRAINAGE

Mechanical drainage is the third important mechanism in chronic lung disease management. The methods by which obstructed airways may be cleared are numerous, but the most important are bronchial aspiration, postural drainage, the production of cough to remove mucoid and mucopurielent secretions, and use of broncho-dilator drugs for relief of spastic phenomena.

Although the cough induced by postural drainage in bronchiectasis is recognized as beneficial, the importance of deliberate coughing in other chronic respiratory diseases is not adequately appreciated. Indeed, it is frequently regarded as harmful and treated with cough suppressants. But in chronic bronchitis, pulmonary emphysema, pulmonary fibrosis, and even in bronchial asthma, cough represents a highly effective means of clearing the bronchial tree of secretions. For this reason, patients with chronic lung disease should be encouraged to cough, not only in acute infective stages, but routinely as a part of the day to day management of their disease. The production of cough is frequently accomplished by the introduction of foreign matter into the bronchial tree. A satisfactory method is the use of broncho-dilator aerosols in the form of epinephrine of neo-synephrine, which serve the dual purpose of relieving broncho-spasm and promoting cough. If cough does not result from these procedures, or if secretions are tenacious, expectorant mixtures may be used. Sedative cough preparations are rarely if ever indicated in chronic broncho-pulmonary disease.

For purposes of cough production and increased pulmonary ventilation, a great deal of work has recently been done on such procedures as mechanical cough chambers, negative pressure breathing, intermittent pressure breathing, etc., but discussion of these procedures is not within the scope of this paper.

OTHER METHODS

While antibiotic therapy, oxygen administration, mechanical drainage, and broncho-dilator drugs are the principal methods of therapy in the management of chronic lung disease, certain other methods contribute greatly to the comfort and well-being of these patients. Proper attention to the general health of the patient, adequate nutrition, rest, elimination of other illnesses, protection from climatic changes and extremes, and other general measures are noteworthy. Elimination of lung irritants, such as tobacco, fumes, dust, and gases, contribute to his comfort, and a thermostatic environment in work and home are sometimes of considerable benefit. Steroid hormones deserve consideration because of their value in bronchial asthma and also because of their promise in broncho-spastic emphysema. But the primary factors are those discussed above.

SUMMARY

The management of chronic lung disease has three important objectives. The day to day management of the patient, the treatment of acute exacerbations with superimposed infection, and the prevention of future pulmonary tissue damage. The use of antibiotic therapy, the judicious use of oxygen administration, and the free promotion of bronchial drainage, all directed toward re-establishment of physiological respiratory function, are important methods of accomplishing these objectives. Recent physiological considerations of these methods have been discussed.

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PARACENTESIS ABDOMINIS*

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Abdominal ascites, fluid in the peritoneal cavity—allow me to describe briefly a very old operation for this condition, which all of you know well. A point is selected halfway between the umbilicus and the anterior superior spine of the left ilium. Under novocain anaesthesia a small skin incision is made. A large trocar and cannula are introduced into the abdominal cavity and the trocar is withdrawn. A large catheter with many holes is inserted through the cannula. The cannula is withdrawn and a second catheter with many holes is introduced in the same manner. These catheters are sewed in with nylon or silk. The two catheters are then connected to a single tube, which is put into a bottle by the side of the bed, and the abdomen is decompressed slowly over a number of hours. Some of the objections to this operation may be noted as follows: Danger of infection, causing a low grade peritonitis, leaking of fluid around the tubes, causing wet dressings, frequent change of dressings and discomfort to the patient. Later, when the catheters are removed, more leakage, more wet dressings and more discomfort. Tapping again often becomes necessary within a few weeks, and may have to be done over and over again until the end or lethal exodus.

Now I would like to outline another operation for this condition in the female, which operation may be new and better. The vagina is sterilized as far as possible. Sodium pentothal, intravenously is a desirable anaesthetic. The patient needs very little anaesthetic and for a very short period of time. With morphine and seconal, this operation can be done without a general anaesthetic.

Operation: The cervix is dilated. A large trocar and cannula are introduced through the cervix and through the lower posterior wall of the uterus into the abdominal cavity. The trocar is withdrawn and a large catheter with many holes is introduced through the cannula and far up into the abdominal cavity. The cannula is withdrawn and a second catheter with many holes is introduced in the same manner. The two catheters are then sewed into the cervix with silk or black nylon. These two catheters are connected to one tube, which drains into a bottle by the side of the bed. After the abdomen is well decompressed slowly over a period of hours, the two catheters are cut off even with the cervix, and allowed to drain into the vagina. These catheters are left in long enough to establish a permanent fistula, which should drain the abdomen indefinitely.

Advantages of this operation are as follows: The vagina can probably be more nearly sterilized than the abdominal wall. No dressings are necessary, except a Kotex or a vaginal pad. Permanent drainage is certainly very much more desirable than repeated taps through the abdominal walls. It might also be stated that there is little or no danger of hemorrhage from this operation, that peristalsis, abdominal breathing, and motions of the body tend to prevent the catheters from being sealed off. There is little chance that the catheters will seal off so tightly that the tracts left by the catheters after they are removed will be fluid tight and not drain the abdomen. Patients with marked ascites from sclerosis of the liver, cancer and other causes often get their most annoying symptoms from abdominal pressure and not from the underlying cause. Quite depressing among these symptoms are change in figure, a sensation of weight, difficult breathing and irregularity of the heart. If these symptoms can be permanently relieved, the patient is much better, physically and mentally, often for a long period of time.

I deeply regret that this operation can not be used in the male. Attention is invited to the fact that we now have metal and plastic tubes that tend to harmonize with instead of fighting the tissues. With one of these tubes it might be practical to drain the male abdomen into the posterior urethra. Permanent drainage through the urethra would certainly be better than repeated tapping through the abdominal wall.

Criticism, both constructive and adverse, is invited, and I will gladly try to answer all questions. It would be most pleasing to me to have my suggestions attacked and thoroughly discussed.

*Read before the annual meeting of the Medical Society of Virginia at Richmond, September 28-October 1, 1952.

MENTAL HEALTH

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A Statistical Review of Alcoholism As It Effects State Hospitals.*

The whole problem of alcoholism is a very wide one. It effects the individual, the family, the community. Many theories and plans of treatment have been advanced and many types of treatment have been tried in an effort to cope with the problem of alcoholism. This problem has been studied by the Courts, religious organizations and laymen's organizations, as well as by the medical profession and mental hospitals. Clinics have been established for treatment and the alcoholics themselves are making efforts to remedy the situation through their organization of Alcoholics Anonymous. Time alone will prove the results of such activities and research in this field.

In the State of Virginia a large part of the treatment of alcoholics, where they reach the point of need of institutional care, has been in the State Mental Hospitals. Alcoholism is also treated in private mental institutions and in licensed alcoholic treatment homes, but many of these patients are hospitalized in the State Mental Hospitals at some time during their lives.

The percentage of those diagnosed as alcoholism (both with and without psychosis) had a high of 23.0% of all first admissions in 1940, a low of 7.5% in 1944 and closed a 12 year period in 1951 with 15.5%. The ratio to general population of first admissions diagnosed as alcoholism, was at a high point in 1940 of 19.5 per 100 000 and a low of 4.4 in 1944. The 12 year period closed with a ratio of 8.5 per 100,000. The actual number of first admissions of alcoholics in 1940 was 522; in 1944 the number was 119 and 279 in 1951. The graph shows the trend of the first admissions of alcoholics to the State hospitals for the statistical period of 1940 through June 30, 1951.

The average age of first admissions for the 12 year period was 40.7 years. It can be readily seen that such an average age effects materially the economic status of the individual and family and adversely effects the occupational situation as well.

The readmissions show a higher percentage of their number diagnosed as alcoholic than the proportion of first admissions. The high point was 24.7% in 1942 with a low of 12.4% in 1944, with an actual number of 182 in 1942 and 84 in 1944.

The length of time in hospital for those diagnosed as alcoholism without psychosis is normally of short duration. Those discharged with less than 3 months hospitalization ranged from a low of 61.0% in 1944

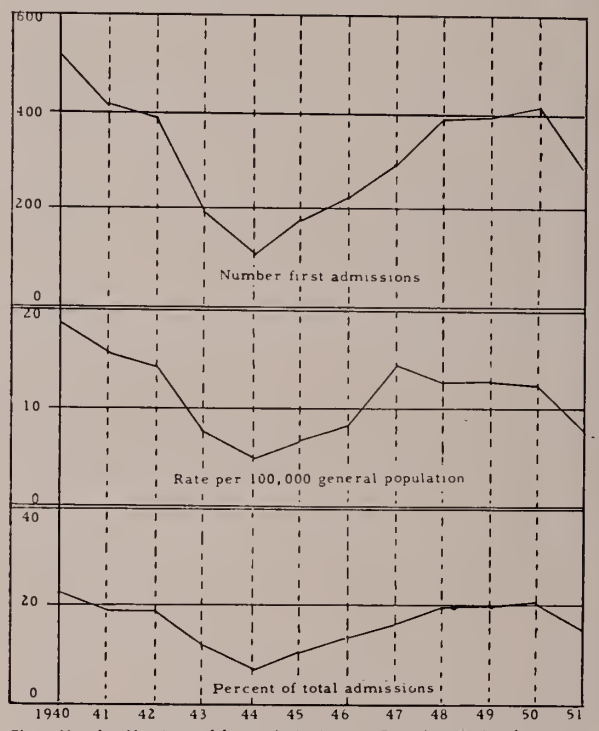


Chart No. 1. Numbe r of first admissions to State hospitals of patients diagnosed as Alcoholsm (with and without psychosis), ratio of first admissions to general population and percentage to total of first admissions for the years 1940 through 1951.

to a high of 84.0% in 1950. (This discharge rate includes those admitted both as first and readmissions). The average length of stay ranged from a low of 4 months to a high of 9 months for the 12 year period of 1940 to 1951. Those diagnosed as alcoholic psychoses discharged in less than 3 months had a low of 40.0% in 1945 and a high of 75.0% in 1950 with an average length of stay in the hospital ranging from a low of 4 months to a high of one year and 4 months for the 12 year period.

The death rate to the number treated is low. There were only 126 deaths for those diagnosed as alco-

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

holism (both with and without psychosis) for the 12 year period.

The resident population of alcoholics at any one time is not large. The largest percentage was 3.4% in 1940. This included both the with and without psychosis diagnosis.

There is no build up of this type of patient in the hospitals; very few have a long hospitalization. The rate of turnover of the number of admissions to discharges is approximately one for one. Even though the stay in hospitals is of short duration, the admission and discharge rate create a time consuming problem for the physicians and staff.

In addition to those diagnosed as alcoholics, the hospitals also have the problem of intemperance with other psychiatric diagnoses. Those having alcoholic habits of intemperance with other diagnoses averaged 6.5% for the 12 year period and those classified as temperate 21.8%.

Economic and general conditions apparently have their effect on the number of alcoholics admitted to State hospitals. As shown on the chart, during the war period when jobs were plentiful and many were in the armed forces, the admission of alcoholics to hospitals was low. It was noted that those who were admitted had a low rate of early release, indicating the more severe cases.

Since the change in the commitment laws in 1950, placing the authority of commitment in the trial justice and police courts, fewer alcoholics have been committed to the hospitals. It is presumed that more of them have been placed in jails and sent to the State Farm than before.

What is the right approach in the treatment of alcoholics ? We do not believe that jails, State Farms or the mental hospitals furnish the complete answer. It is the consensus of opinion of many physicians and psychiatrists that the problem is both physical and mental. If this is true, then no lasting results will be effected unless both the physical and mental health of the patient are taken into consideration, fully diagnosed and treated.

In view of the need for a prolonged treatment of very special type, the mental hospitals should be relieved of this problem of alcoholism as such. In many cases the addition of an education and vocational program would also be of assistance in the rehabilitation of an alcoholic. In view of these aspects, a special treatment institution should be developed where concentration can be made on this type of patient. This would also alleviate the problem of having to place mental patients and alcoholics in the same wards in the mental hospitals, which is now necessary in too many instances.

What Are Cancer's Warning Signs?

Cancer often betrays itself in its early stages by certain easily noticed signs. For your own good—and for that of every person dear to you—it is important to learn and never forget these warning signs. They are commonly called the *7 Danger Signals of Cancer*. Knowing them (*and acting on their warnings*) has saved many lives and some day may save yours.

The *7 Danger Signals* which may mean cancer are:

1. Any sore that does not heal.
2. A lump or thickening, in the breast or elsewhere.
3. Unusual bleeding or discharge.
4. Any change in a wart or mole.
5. Persistent indigestion or difficulty in swallowing.
6. Persistent hoarseness or cough.
7. Any change in normal bowel habits.

Upon the first appearance of any one of these seven danger signals consult a doctor. Do it right away. Don't wait for pain. That may only appear when cancer is in an advanced stage. Any of the 7 Danger Signals may mean cancer. If you notice any one of them in yourself, go straight to a doctor. If you find that any member of your family or any of your friends have them, urge that they see a doctor at once.

The possibility of cure is very much greater when cancer is discovered and treated in its primary stages. *Delay in seeing a doctor may mean death—for no cancer has been known to cure itself. Untreated cancer is always fatal.*

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Influenza and Pneumonia Deaths.

As an indication of disease severity during the recent epidemic of influenza, the National Office of Vital Statistics has published by weeks the number of deaths from influenza and pneumonia occurring in 58 cities with an aggregate population of thirty-five million.

For comparison is shown, in Table II, the number of deaths in Virginia from influenza and pneumonia in January, 1952 and January, 1953 with age distribution.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Feb. 1953	Feb. 1952	Jan.-Feb. 1953	Jan.-Feb. 1952
Brucellosis	3	2	3	9
Diarrhea & Dysentery	70	329	734	208
Diphtheria	9	12	22	29
Hepatitis	185	81	136	429
Measles	465	1883	2827	745
Meningitis (Meningococcic)	31	12	31	60
Poliomyelitis	0	4	8	5
Rocky Mt. Spotted Fever	0	1	2	0
Scarlet Fever	111	95	176	232
Tularemia	2	9	21	10
Typhoid and Paratyphoid	1	6	9	8
Rabies in Animals	46	48	96	96

TABLE I—Deaths From Influenza and Pneumonia by Weeks in 58 Cities

Dec. 20 1952	Dec. 27 1952	Jan. 3 1953	Jan. 10 1953	Jan. 17 1953	Jan. 24 1953	Jan. 31 1953	Feb. 7 1953	Feb. 14 1953	Feb. 21 1953
249	230	291	350	404	463	554	610	596	539

TABLE II—Influenza and Pneumonia Deaths in Virginia

INFLUENZA January, 1952 Age Distribution		INFLUENZA January, 1953 Age Distribution		PNEUMONIA January, 1952 Age Distribution		PNEUMONIA January, 1953 Age Distribution	
0 - 34	6	0 - 34	13	0 - 34	52	0 - 34	49
35 - 44	2	35 - 44	1	35 - 44	6	35 - 44	5
45 - 64	4	45 - 64	13	45 - 64	14	45 - 64	35
65 and over	7	65 and over	28	65 and over	34	65 and over	61
TOTAL	19	TOTAL	55	TOTAL	106	TOTAL	150

New Books.

Below are listed some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia. These may be borrowed by our readers under usual library rules:

Albert—Selected toxicity. 1951.
Belding—Textbook of clinical parasitology, 2d ed. 1952.
Bell—Renal diseases, 2d. ed. 1950.
Brazier—The electrical activity of the nervous system. 1951.
Cook—Human fertility: The modern dilemma. 1951.
Linksz—Physiology of the eye. Vol. 2—Vision. 1952.
Meschan—An atlas of normal radiographic anatomy. 1951.
Mellon, ed.—Analytical absorption spectroscopy. 1950.
Parmelee—Management of the newborn. 1952.
Rhodes & van Rooyen—Textbook of virology. 2d. ed. 1953.
Ropes & Bauer—Synovial fluid changes in joint disease. 1953.
Sarnat, ed.—The temporomandibular joint. 1951.
Selye—Second annual report on stress. 1952.
Shands—Handbook of orthopaedic surgery. 4th ed. 1952.
Sheldon, et al—A manual of clinical allergy. 1953.
Taylor—The measurement of radio isotopes. 1951.
White, et al.—The autonomic nervous system. 3rd ed. 1952.

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Albemarle Hotel Building, Charlottesville, Va.

Reprints of this and preceding Bulletins may be obtained from this office

APRIL 1, 1953

BULLETIN

Wilms' Tumors and Neuroblastomas

Though malignancies in children do not occur in great numbers, such a high percentage of the victims die that cancer, including leukemia and Hodgkin's disease, is one of the leading causes of death from disease in children under fifteen. The ultimate prognosis in some of the more common childhood malignancies such as leukemia, central nervous system tumors, and bone tumors is so gloomy, in spite of constantly more successful palliation, that the hopeful outlook in other common childhood malignancies is often ignored. Unwarranted pessimism can lead to deferred treatment which can lead to unnecessary death.

For instance, retinoblastoma is rarely encountered in any one physician's practice, yet prompt recognition on those rare occasions is vital because 50 per cent of unilateral retinoblastomas, enucleated with removal of as much of the optic nerve as possible, are cured. Even in bilateral retinoblastomas, more can be accomplished than is usually recognized. Reese, in his book "Tumors of the Eye," advises bilateral enucleation if no sight remains. If there is vision in one eye, he advises enucleation of the more severely affected eye plus irradiation of the less severely affected eye. Of 19 patients receiving such treatment, Reese reports six living without recurrence and with vision five years later, and six more living without recurrence but also without vision five years later.

Next to leukemia, the most frequently encountered childhood malignancies are Wilms' tumors and neuroblastomas. The difference that a positive approach can make in these diseases is illustrated by the following two case histories.

1. The parents of a two month old infant noticed a firm mass deep in the left mid-abdomen. Their physician advised them to watch it and let him know if it enlarged. The growth of the primary tumor was slow and the child was not investigated until it was six months old. By that time, innumerable small metastases were readily demonstrable in skeletal roentgenograms. A presumptive diagnosis of neuroblastoma was made, a diagnosis which was confirmed by bone marrow study and at autopsy two years later after several remissions produced by x-ray therapy.

2. A left abdominal mass was discovered in a six months old infant. Pyelography the following day demonstrated a normal right kidney. The left renal collecting system was severely distorted. Two days later, a left transabdominal nephrectomy was performed. The pathologist confirmed the presumptive diagnosis of Wilms' tumor. Postoperative x-ray therapy was administered to the renal fossa. Two and a half years later, the child is alive and without recurrence.

Arey, in an article on "Cancer in Childhood" in the November, 1952 issue of "The Medical Clinics of North America" comments that neuroblastomas arise from cells destined to form the adrenal cortex and sympathetic ganglia. Therefore they may develop in the cervical ganglia, the retropleural region, or the retroperitonal region, but usually appear in the adrenal cortex, occasionally in the renal parenchyma. Wilms' tumors may arise in the retroperitoneal region independent of the kidney but usually are in the kidney. Unlike kidney tumors in adults, Wilms' tumors frequently do not cause hematuria. *So the presenting complaint with both tumors is usually an abdominal mass.*

Such a discovery is an emergency calling for an investigation of not more than two or three days' duration in preparation for treatment.

As neuroblastomas frequently metastasize to the skeleton and Wilms' tumors to the lungs, skeletal and chest x-ray examinations

are of prognostic value. Bone marrow studies may reveal invasion by neuroblastoma while the roentgenograms are still negative. However, the discovery of metastases should rarely be allowed to alter plans for surgical removal of the primary tumor.

Pyelograms may offer roentgen evidence of value in differential diagnosis between the two tumors, but this is of little practical value. Pyelograms are important to demonstrate the relation, if any, of the abdominal mass to kidney, and *they are a preoperative necessity for proof of the presence of at least one normal, functioning kidney.*

Metastasis should not be encouraged by frequent or rough palpation of masses suspected of representing one of these leisons.

Preoperative differentiation between the two may be and ofter is uncertain or impossible. But as *the treatment for both is prompt surgery and roentgen therapy,* the accumulation of diagnostic data should not be allowed to postpone treatment.

A transabdominal approach is recommended, even when the pyelogram demonstrates a deformed renal pelvis, to permit ligation of the renal pedicle before the tumor is manipulated.

In occasional neglected cases, the bulk of the tumor may be so great that surgery is impractical until preoperative radiation therapy has partially reduced the mass.

Some urologists and roentgen therapists advocate routine preoperative radiation to reduce the hazard of metastasis during the nephrectomy. Others urge immediate surgery, feeling that postponement of operation to permit preoperative radiation increases opportunity for metastasis. All agree on the value of postoperative radiation of the kidney fossa. If metastases have been demonstrated, these should be irradiated at the same time. And roentgen therapy should be used to treat metastases occurring postoperatively.

Although apparent cures following bone or central nervous system metastases from neuroblastomas occur, they are extremely rare. But *results in less advanced cases are encouraging.* Farber (Am. J. Dis. Child., Sept., 1940) reported ten of 40 patients alive three to eight years after treatment, and Wittenborg (Rad., May., 1950) reported 13 of 23 patients alive three years or longer after treatment, including six patients in whom liver metastases were found when the primary tumor was removed.

As for the Wilms' tumors, Gross and Neuhauser (Ped., Dec., 1950) reported 18 of 38 patients alive and well two years or longer after surgery and postoperative radiation. Since recurrences and metastases, if they are to occur, usually do so within two years after nephrectomy, most of these patients are probably cured.

Results such as these leave no room for pessimism and indecision. A solid abdominal mass discovered in early life should be assumed to represent a malignancy. Properly and promptly treated in an early stage, such tumors, when found by the pathologist to be neuroblastomas or Wilms' tumors, afford a hopeful prognosis.

THE MEDICAL SOCIETY OF VIRGINIA

Council Minutes

The meeting was called to order at 1:00 p.m., February 19, 1953, by the President, Dr. James L. Hamner. Those attending were Dr. Vincent W. Archer, Dr. John T. T. Hundley, Dr. Mack I. Shanholtz, Dr. Kinloch Nelson, Dr. Lewis H. Bosher, Jr., Dr. A. A. Creecy, Dr. Guy W. Horsley, Dr. Wilkins J. Ozlin, Dr. Louis P. Bailey, Dr. Frank A. Farmer, Dr. Harold W. Miller, Dr. Claude A. Nunnally, and Dr. James P. King.

First on the agenda was consideration of action taken by the Albemarle County Medical Society with regard to a full page Chiropractic advertisement which appeared in a Richmond newspaper on January 4. A letter protesting this form of advertising was sent by the Albemarle Society to the paper's editor.

It was pointed out that since Chiropractors are legally recognized in Virginia, it might be well to seek legal advice. A motion was then made by Dr. Hundley that the matter be referred to Mr. Duval, attorney for The Medical Society of Virginia, and his opinion sought as to what action the State Society might take.

Considered also was an advertisement by T. W. Wood & Sons Seed Co., which praised the beneficial effects of alfalfa seed tea on arthritis, etc. It was mentioned that thus far, little, if anything, is known of any such values contained in alfalfa seed tea, and the consensus was that such companies should remain out of the field of medicine. It was suggested that individual physicians write the company pointing out their objections to such advertising.

An appropriation for legislative expense was considered, and it was explained that the current budget does not provide for the retainer fee of $50.00 per month for Mr. Duval. A motion to appropriate the necessary $600.00 was passed unanimously.

Attention was then given the matter of selecting a time and place for the Annual Meeting of the Society in 1954. White Sulphur Springs (The Greenbrier) and Hot Springs (The Homestead) were considered, as was the possibility of a joint meeting with the District of Columbia Medical Society to be held in Washington (Statler). It was emphasized that if the latter were seriously considered, the Arlington, Alexandria and Fairfax County Medical Societies should first be contacted. Dr. King then moved that the Executive Committee, the President and the Executive Secretary be authorized to investigate and determine the location and dates of the 1954 meeting. The motion passed unanimously.

The following resolution of the Mid-Tidewater Medical Society concerning the care of the Walter Reed Birthplace at Belroi, Gloucester County, was considered:

> Whereas, Drs. H. A. Tabb and R. D. Bowles, members of this society and also members of the Committee of The Medical Society of Virginia which has charge of the Walter Reed Birthplace properties at Belroi, have brought to the attention of the Mid-Tidewater Medical Society the increasing burden, labor and expense of caring for this property, as it should be done, and the inadequate publicity which it enjoys at this time,
>
> And, Whereas, the National Park Service is only 12 miles away at Yorktown, fully equipped and staffed to give the Walter Reed property proper and adequate custodial care and proper restoration and landscaping, in keeping with the importance of the great national personage as Dr. Walter Reed has now become,
>
> Therefore Be It Resolved, 1. That the Mid-Tidewater Medical Society bring this matter to the attention of the Council of The Medical Society of Virginia, and request that steps be taken to arrange for proper care of the property, if feasible with the National Park Service; 2. That efforts be made to preserve and restore the Walter Reed Birthplace as a memorial to this distinguished Virginian in keeping with the great work he accomplished; 3. That a copy of these resolutions be transmitted to The Medical Society of Virginia by the secretary of this society.

The thought prevailed that Mr. Duval's opinion should be sought concerning the advisability of such a step and also what the proper procedure would be. It was then moved that if such action seems feasible after investigation, and if reasonable assurance is had that the National Park Service will preserve and maintain the property as a fitting monument to Walter Reed, the necessary steps then be taken to turn the property over to them. The motion passed unanimously.

Next on the agenda was the matter of framing and preserving the pictures of past presidents of The Medical Society of Virginia. It was revealed that over ninety pictures have been secured thus far. Estimates received indicated that the cost would be $150.00 for five frames (24 pictures to a frame) or $200.00 for frames and mats. It was moved by Dr. Archer that $200.00 be appropriated for this purpose. The motion carried unanimously.

The following resolution of the Arlington County Medical Society was discussed:

That the Arlington County Medical Society would like to go on record as opposing the financial backing and, in some instances, the setting up of medical centers by big business and industry, and especially their claim that group practice is far superior to individual or partnership practice, and That members of the Society, in their relations with the press and the public in general, submit through the Board of Censors for clearance, all written or oral statements concerning medical subjects.

It was believed that the resolution deserved further study, and a motion was made to refer the matter to the Ethics Committee with the request that the Committee make its recommendations after consultation with the Council on Medical Service of the A.M.A. The motion carried.

Dr. King suggested that members of The Medical Society of Virginia be given adequate notice of Council meetings in order that those wishing to attend might have that opportunity. It was decided that such notice should be carried in the Virginia Medical Monthly.

Concerning the $25.00 increase in dues for the Conference of Presidents and Other Officers of State Medical Societies, it was moved that an appropriation be made to cover the increase and that the Society's delegates to the A.M.A. look into the value and advisability of continuing membership in the Conference. The motion carried.

The value of having a district council was next considered, and it was brought out that such a council is often the best contact a Councilor has with members in his district. It was moved that the Executive Secretary contact each component society, urging them to elect a member of the district council from each county and city represented in the various societies. The motion carried.

Next on the agenda was the question of sponsoring an exhibit at the 1953 Atlantic Rural Exposition. It was pointed out that first of all, an appropriation in the amount of $205.00 was needed to cover the cost of the 1952 exhibit, since the books were closed prior to the exhibit date in October. A motion to appropriate the needed sum was carried. A further motion that a sufficient sum be appropriated to sponsor a similar exhibit at the 1953 Exposition and also at the meeting of the Virginia Pharmaceutical Association was carried. It was stipulated that the exhibits would be sponsored only upon the advice of the Public Relations Committee. The work of the Woman's Auxiliary in making the 1952 exhibit a success was commended.

Recent increases in mal-practice insurance were discussed, and it was pointed out that several members of the Society had expressed dissatisfaction. The largest increase noted was that for hospitals. It was moved that the matter be referred to the Medical Service Committee for study and any recommendations they might wish to offer. It was also suggested that the Committee investigate the possibility of zone insurance.

Considered next was the matter of exemption from the payment of dues those members of the Society who retire from active practice prior to their seventieth birthday. Although this is left to the discretion of the President, it was believed that perhaps the Judicial Committee should take the question under consideration and study the advisability of recommending a change in the Constitution and By-Laws which would more clearly define the conditions of dues exempt membership.

Dr. Nelson brought up the difficulty encountered by the State Board of Medical Examiners when considering applications of graduates of foreign medical schools to take the State Board examination. It was believed that an advisory committee of The Medical Society of Virginia, appointed for the purpose, might advise the State Board concerning individual applicants and also study the possibility of some type of helpful legislation. At the present time the Board is handicapped when considering graduates of schools behind the Iron Curtain since little information is available concerning those institutions. It was moved and passed that the deans of the two medical schools constitute an advisory committee and associate with themselves such other members of The Medical Society of Virginia as they might wish. The committee would study and sug-

gest possible methods of easing the present difficulty in Virginia.

Dr. King asked for suggestions to stimulate interest in the Woman's Auxiliary over the state, pointing out that the Society has too long neglected one of its best public relations mediums. A motion was made to suggest to the Finance Committee the possibility of financing the Auxiliary program beginning next year. It was further moved that the President of the Auxiliary be invited to attend the meetings of Council and that the Auxiliary be represented at the regular meetings of the House of Delegates. The motion carried.

The importance of working closely with members of the Student A.M.A. was emphasized, and it was suggested that component societies invite the students to attend society meetings when home on vacation. The Executive Secretary was requested to contact the medical schools and arrange to have each member of Council furnished with the names of students in the respective districts.

Dr. Hamner outlined his thoughts concerning the possible setting up of a special committee to confer with the State Department of Health, and also discussed the advantages of a committee to confer with the American Legion, the State Denal Association, and the State Hospital Association regarding pertinent topics of the day, including hospitalization of veterans and non-service connected disabilities.

There being no further business, the meeting was adjourned.

Approved James L. Hamner, M.D., President

Goodwill Gesture

Whenever I receive an announcement from a new M.D., I reply with a note worded something like this: "It was good to get your announcement and to note that you plan to practice here. If I can be of any assistance to you, just call on me. Meanwhile; let me wish you all possible success."

It's surprising how many of these doctors refer cases to my office, even though referrals are not my object and in some instances we've never even met. As one practitioner said: "When I was new here, you were the only man of your specialty thoughtful enough to send me a good-luck note."—M.D., New Jersey

Copright 1953, *Medical Economics*

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—
MRS. THOMAS N. HUNNICUTT, JR., Newport News
President-Elect—MRS. K. W. HOWARD, Portsmouth
Treasurer—MRS. WM. C. BARR, Richmond
Recording Secretary—MRS. LEE S. LIGGAN, Irvington
Corresponding Secretary—
MRS. F. A. CARMINES, Newport News
Publication Chairman—
MRS. ROBERT H. DETWILER, Arlington

Reports from Auxiliaries.

NORTHAMPTON-ACCOMAC

This Auxiliary held its first meeting of the New Year on January 13th, at luncheon at the Owl Restaurant near Parksley, as guests of Mrs. O. R. Fletcher. Twenty members and one guest were present.

The business meeting followed the luncheon, with the new president, Mrs. John R. Hamilton, presiding and Mrs. H. L. Denoon, Jr., the new secretary, read the minutes of the last meeting.

A tribute of respect in memory of Mrs. E. W. P. Downing and Mrs. J. Mortimer Lynch was read by Mrs. Holland Trower, and the President requested that a copy be sent to the families of Mrs. Downing and Mrs. Lynch.

A review of the history of The Northampton-Accomac Hospital was given by Mrs. W. J. Sturgis, Sr., from its inception to the present time.

Dr. W. J. Sturgis, Sr., had long seen the need of a hospital on the Eastern Shore, especially in emergencies. Mrs. Sturgis gave many names and gifts of the first donors, and told of the untiring work of the hospital auxiliaries in raising funds.

All contributed so generously that finally, on August 17, 1928, the hospital opened with great rejoicing. General Hugh S. Cumming, of the U.S. Dept. of Health, spoke at the opening of the hospital. Since then, the hospital has grown and expanded and, at present, the new wing and nurses home is nearing completion.

At the close of Mrs. Sturgis talk, Mrs. J. H. Hiden spoke her appreciation of Mrs. Sturgis fine report.

Mrs. W. T. Green, Jr., chairman of The Grace Wilkins Holland Memorial gave her report on Room No. 305, which is known as The Grace Wilkins Holland Memorial Room, stating the Auxiliary to date has donated two beds, two bedside tables, one dresser, one comfortable chair, drapes, and two bedside lamps, at a cost of $400.00. The room is to be painted, and the memorial committee plans to buy tray tables, one for each bed, and another comfortable chair.

Mr. Alvin Bradford, business administrator of the hospital gave a detailed report on the rearrangement and operation of the hospital and account of the new plant and the changes to be made for more room and efficiency. A new Children's section will be arranged, and is to be taken care of by The Junior Woman's Club of Accomac.

Some of the new things Mr. Bradford listed are as follows: new elevator, kitchen enlarged, steam pacs for food to be taken to the patients' rooms, new building for the laundry, new water supply, sprinkler system, sewage disposal system, air conditioning for operating rooms, and a third operating room, landscaping of the grounds. He hopes to have the hospital on a sound business basis, and also stated that the new nurses' home should be completed in April, but there is still a shortage of nurses.

Mr. Bradford's report was most interesting and informative, and he was given a round of applause for his very fine year's work and report.

The Auxiliary contributed to The March of Dimes, the 1953 dues were collected, and the meeting adjourned.

CATHERINE R. TROWER,
(MRS. HOLLAND)
Chairman, Press and Publicity.

RICHMOND

On Valentine's Day, February the 14th, the Woman's Auxiliary to the Richmond Academy of Medicine had a Dinner Dance at the Hotel Jefferson to honor their husbands. The husbands were given red carnations as they entered the door. Mrs. William F. Grigg, Jr. was General Chairman for the dance. Mrs. John E. Stevens was Ticket Chairman.

The Auxiliary manned the headquarters of the Richmond Chapter of the Heart Association for the week of February 23rd through February 27th, and furnished 23 volunteers.

At the February meeting, Mrs. Gilman R. Tyler resigned as President-elect and Mrs. Custis L. Coleman, Vice-President was installed as President-elect. Mrs. J. R. Grinels became Vice-President.

JANET F. COLEMAN, *President-Elect*
(MRS. C. L.)

Alexandria

Mrs. Jerome Baum was hostess to the Auxiliary at her home on January 27, a Tuesday evening. Mrs. Forrest Swisher, president, presided. The by-laws, which have been completely rewritten this year, were read for the final time and were adopted. It was agreed to send contributions to the Leigh-Hodges-Wright Memorial Fund (for Tuberculosis), as has been done in past years, and to the American Medical Education Foundation.

Dr. and Mrs. Daniel Yuter were hosts at their home for the second Auxiliary social of the year on Valentine's Day. Fifty-six turned out for the gala occasion. Each member contributed a favorite recipe, which resulted in a very attractive buffet supper. The doctors seem to especially enjoy these social get-togethers.

MISCELLANEOUS

Program, Virginia Academy of General Practice.

The program for the annual meeting of the Academy in Richmond, May 7 and 8 is given below:

Thursday, May 7

9:00 A.M.—"A.M.A. Representation in Washington" Cyrus H. Maxwell, M.D.—Washington, D. C.

9:40 A.M.—"Infant Feeding"—McLemore Birdsong, M.D.—University of Virginia

11:00 A.M.—"Genital Urinary Infections"—Thomas B. Washington, M.D.—Richmond

11:40 A.M.—"Dental Infections"—Holmes Knighton, D.D.S.—Medical College of Virginia

12:20 P.M.—"Diagnosis and Treatment of Epilepsy"—Randolph Leigh, Jr., M.D.—University of Virginia

3:30 P.M.—Clinical Pathological Conference—
Presentation of Clinical Case: Charles M. Caravati, M.D.—Richmond
Pathological Discussant: G. R. Hennigar, M.D.—Medical College of Virginia

4:30 P.M.—"Diseases of the Pituitary Glands"—Kenneth R. Crispell, M.D.—University of Virginia

Friday, May 8

9:00 A.M.—"The Office Treatment of Fractures"—Milton J. Hoover, Jr., M.D.—Medical College of Virginia

9:40 A.M.—"Toxicology"—Sidney Kaye, M.Sc.—Medical College of Virginia

11:00 A.M.—"Peripheral Vascular Diseases—Non-Diabetic"—James P. Hendrix, M.D.—Duke University Hospital, Durham, North Carolina

11:40 A.M.—"Relation of the Physician in Industry to Those in Private Practice"—R. Lomax Wells, M.D.—C & P Telephone Co.—Washington, D. C.

12:20 P.M.—"Diagnosis of Acute Abdomen"—Charles E. Davis, Jr., M.D.—Norfolk

2:00 P.M.—"Antibiotics"—Count D. Gibson, Jr., M.D.—Medical College of Virginia

3:30 P.M.—"Treatment of Hypertension"—Upshur Higginbotham, M.D. — Bluefield, West Virginia

4:10 P.M.—"The Role of the General Practitioner in Early Diagnosis of Cancer"—John O. Boyd, Jr., M.D.—Roanoke

A cordial invitation is extended to all physicians in Virginia and elsewhere to attend the sessions and it is hoped many from neighboring states will avail themselves of the opportunities and facilities afforded by this annual "gathering of the clan" of General Practitioners.

Woman's Auxiliary—V.A.G.P.

The Woman's Auxiliary of the Virginia Academy of General Practice will meet also at the Hotel Jefferson, Richmond, on May 7 and 8 and a most interesting program has been arranged.

A Luncheon meeting, with election of officers, will be held in the Flemish Room at 1:00 p.m. on Thursday, May 7, at which time Mr. William Tayloe Munford, authority on interior decorating, will be the guest speaker, his topic being "Decorating".

A Card Party, beginning at 10:00 o'clock Friday morning, also in the Flemish Room, will conclude in time to adjourn to the Commonwealth Club for Luncheon, where the ladies will be the guests of Mr. Walter F. Hyer, Medical Service Representative of J. B. Roerig and Company of Chicago.

BOOKS

Hospital Staff Appointments of Physicians in New York City. Hospital Council of Greater New York. The Macmillan Company, New York. 1951. 151 pages. Cloth. Price $3.25.

Synovial Fluid Changes in Joint Disease. By MARIAN W. ROPES, M.D., Associate Physician, Massachusetts General Hospital, Assistant Clinical Professor of Medicine, Harvard Medical School; and WALTER BAUER, M.D., Chief of Medical Services, Massachusetts General Hospital, Jackson Professor of Clinical Medicine and Director of Robert W. Lovett Memorial Foundation for the Study of Crippling Diseases, Harvard Medical School. Published for the Commonwealth Fund by Harvard University Press, Cambridge, Massachusetts. 1953. xvi-150 pages. Illustrated. Cloth. Price $4.00.

Textbook of Surgery. Edited by H. F. MOSELEY, M.A., D.M., M.Ch. (Oxon), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S. (C), Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada. With Foreword by G. GAVIN MILLER, M.D., C.M., M.Sc., F.R.C.S. (C), F.A.C.S., Chairman of the Surgical Department, McGill University; Surgeon-in-Chief, Royal Victoria Hospital. St. Louis, The C. V. Mosby Company. 1952. xxi-896 pages. With 460 Text Illustrations and 46 Color Plates. Cloth. Price $15.00.

Chlorophyll in Medicine. Scientific Background; Clinical Experience in Topical Therapy with Chloresium (ointment and solution-plain). Published by Rystan Company, Inc., Mount Vernon, New York. Pamphlet of 53 pages. May be obtained upon request to publishers.

Studies in Visual Optics. By JOSEPH I. PASCAL, B.S., M.A., O.D., M.D., Director of Eye Department, Stuyvesant Polyclinic; Attending Ophthalmologist, New York Polyclinic Medical School and Hospital, Outpatient Department; Lecturer in Ophthalmology, New York Polyclinic Medical School and Hospital. St. Louis, The C. V. Mosby Company. 1952. 800 pages. Illustrated. Cloth. Price $12.50.

The author succeeded in writing a rather readable and comprehensive outline of physiological optics for students of optometry and of ophthalmology. Although this book contains, according to its preface, not even "a sizeable portion of the material" presented by Dr. Pascal to his classes, its content in the opinion of the reviewer is complete enough to serve as a textbook. The material is presented in an unusual way, which is easily grasped and absorbed by the student. A large number of illustrations, schematic and graphic representations, and hints for memory aid as well as simplifications of some of the usual mathematical formulae increase the value of this book as a student helper. In his attempts to simplify some of the very complicated problems of visual optics, the author might arouse the wrath of some learned physicists or physiologists, but he will be compensated in all probability by the thankfulness of his readers and students.

E. F.

The Oculorotary Muscles. By RICHARD G. SCOBEE, B.A., M.D., F.A.C.S., Assistant Professor of Ophthalmology, Washington University School of Medicine, St. Louis, Missouri. Second Edition. St. Louis, The C. V. Mosby Company. 1952. 512 pages. With 159 Illustrations. Cloth. Price $11.00.

This second edition of Dr. Scobee's book, which was so well received when first published, is considerably enlarged and rewritten in many parts. The fascinating story of the function and dysfunction of the oculorotary muscles is well told and makes the book an excellent text for postgraduate study. A fairly complete subject index is a big help for the reader not yet familiar with the subject, since some expressions, such as "esophoria", "Maddox rod test", etc., are used in early chapters long before an exact definition or description is offered. Although the author recognizes the value of orthoptics as a non-surgical or a pre-operative treatment of heterotropia in some cases, he does not discuss the methods used by the orthoptists since this subject has been recently covered by excellent books. However, the surgical treatment of heterotropia is critically discussed in detail.

E. F.

Correlative Neuroanatomy and Functional Neurology. By JOSEPH J. McDONALD, M.S., M.Sc.D., M.D., Professor of Surgery, Columbia University; etc. And JOSEPH G. CHUSID, A.B., M.D., Attending Neurologist, St. Vincent's Hospital, New York. Sixth Edition. Lange Medical Publications. University Medical Publishers, Los Altos, California. 1952. 263 pages. Price $4.00.

The author's own term, "concise outline format," best describes this volume of "Correlative Neuroanatomy and Functional Neurology". It is compendious, yet completely fulfills the purpose for which it is intended, namely, a quick review for the student in Neurology. This latest revision incorporates newer concepts in the clinical field, as well as excellent additions in diagrams, charts and illustrations; especially the portion on muscle testing.

The reasonable cost belies the wealth of information between the covers, and it could well be a most useful addition to the library of any student of the nervous system.

L.L.J.

EDITORIAL

Dr. Claude C. Coleman, 1879-1953

DR. CLAUDE C. COLEMAN, one of the pioneers in the development of neurological surgery in this country, died on January 9, 1953, aged 73, in Richmond. Dr. Coleman, son of Frank and Jane Patrick Coleman, was born in Caroline County, Virginia, July 21, 1879. His early education was obtained in the local schools there and he entered William and Mary College in 1896 and two years later was awarded a teacher's certificate. He taught school on the Eastern Shore of Virginia for two years, and then matriculated in the Medical College of Virginia at Richmond, from which institution he received his M.D. degree in 1903. In the first decade after graduation from medical school, Dr. Coleman engaged in the general practice of medicine in



CLAUDE C. COLEMAN, M.D.

Buena Vista, Virginia and obtained graduate training in surgery, for a time working with Dr. J. Shelton Horsley. In 1913, ten years after being graduated from the Medical College of Virginia, Dr. Coleman entered the practice of surgery in Richmond and soon had a wide and diversified general surgical practice. Even during this period he was especially interested in plastic and neurological surgery.

During World War I, Dr. Coleman's interests were concentrated on neurological surgery. He was made chief of the brain surgery school at Fort Oglethorpe, Georgia where he did extensive work in peripheral nerve surgery, operating on numerous patients with nerve injuries, chiefly casualties of the war in France. During the war period he also was associated with Dr. Charles H. Frazier, Professor of Surgery at

the University of Pennsylvania, in a military hospital in Cape May, New Jersey. He also worked in a similar institution in Staten Island, New York.

Returning to Richmond during the latter part of 1919, Dr. Coleman began his most significant surgical achievement: the organization and development of the Department of Neurological Surgery at the Medical College of Virginia, where he was to carry on his work as Professor of Neurological Surgery for a period of 32 consecutive years. Dr. Coleman also organized a department of neurological surgery at the request of the Dean of the medical school of the University of Virginia in Charlottesville and served as clinical professor of Neurological Surgery in that institution from 1937 to 1941. He thus concretely implemented his long-felt desire to establish departments of neurological surgery in the two medical schools in Virginia. In all, he held four professorships in the two medical schools in Virginia, during his active surgical career. In addition to the two mentioned, he was elected in 1912 to the Professorship of the Principles of Surgery, and in 1913 to the Professorship of Oral Surgery and Anesthesia, both in the Medical College of Virginia. In 1951 he retired and was appointed Neurosurgical Consultant to the Medical College of Virginia Hospitals, which position he retained until his death. At the time of his retirement from active surgical practice in 1951, Dr. Coleman had taught a total of 44 years in public and private schools, and in the medical schools.

He was a member of numerous important surgical and neurological societies including the Society of Neurological Surgeons (President in 1929), the American Neurological Association, the Southern Surgical Association. the American College of Surgeons, the Seaboard, Norfolk and Western (President), and Chesapeake and Ohio Railroad Surgeons' Associations, the Southeastern Surgical Congress, the American Medical Association, The Medical Society of Virginia and the Richmond Academy of Medicine. He was president of the last named organization in 1925. In 1943, he was elected an honorary member of the Harvey Cushing Society.

In his later years, many well-deserved honors came to Dr. Coleman. He was appointed to the Board of Visitors of William and Mary College on April 24, 1941 and served on that board until 1950. He also received the Alumni award and the honorary degree, Sc.D. from that school. The honorary Sc.D. degree also was conferred upon Dr. Coleman by the Medical College of Virginia in June 1951, at the time of his retirement from the Professorship of Neurological Surgery. He was a member of the Founders' Group of the American Board of Surgery and served as an examiner for the American Board of Neurological Surgery from its inception in 1940 to 1949. Perhaps his happiest and proudest moment was in May 1949, when all of his former neurosurgical residents, occupying important posts throughout this country, assembled to honor him on the completion of his thirtieth year as Director of Neurological Surgery at the Medical College of Virginia. A number of his neurosurgical contemporaries from Boston, Baltimore, San Francisco and the Mayo Clinic also took part in this celebration in honor of Dr. Coleman. In September 1951 his former residents presented his portrait to the Medical College of Virginia at an impressive ceremony in the Baruch Auditorium. This portrait now hangs in the auditorium of the Medical College of Virginia Hospital. In World War II, he served as Civilian Consultant in Neurological Surgery to the Surgeon-General and in 1946 he was named as neurosurgical consultant to the Special Medical Advisory Group of the Veterans' Administration, which met at frequent intervals in Washington D. C., and in which capacity he served through 1952.

His medical writings were models of clarity in simple yet forceful language.

This note should not close however, without a word concerning Dr. Coleman's outstanding characteristics as well as reference to his significant contributions, to his chosen specialty. In his practice he combined the art and the science of medicine to an unusual degree.

His contributions toward the diagnosis and treatment of injuries to the head, spine and peripheral nerves along with his clarification of facial nerve lesions were outstanding and may well be considered his most important achievements. His excellent results in the treatment of brain abscesses and tumors, Meniere's disease and other neurosurgical lesions also are well known.

To have known Dr. Coleman during his active neurosurgical career was a unique and rewarding, indeed an unforgettable experience. He had an unusual capacity to inspire loyalty and devotion in his residents, his medical colleagues and his patients. Such loyalty and devotion was the natural result of his complete sincerity. Dr. Coleman had an infectious sense of humor and was a raconteur of more than ordinary talent. Tales of his many unique mannerisms and anecdotes of his effective methods for dealing with patients and other individuals are legendary and are fondly recounted whenever two or more of his former associates, residents or interns meet. His diagnostic skill, his operative boldness or conservatism, as the individual case demanded, the excellence of his surgical judgment coupled with his genuine interest in his patients' problems were significant characteristics throughout his surgical career. His interest in his residents and in their careers was genuine and was sustained. Like Osler, Dr. Coleman was the "Young Man's Friend" and he furthered their careers to the best of his ability.

Dr. Coleman was married three times. In 1917 he married Julia Langhorne Cone and to them were born four children, three daughters and a son, C. C. Coleman, Jr., who is following in his distinguished father's footsteps. His first wife died in 1927 and in 1931 he married Ruth Threadcraft Putney, who died in 1945. In 1948 he married Constance Gooding Cardozo, who survives him, together with his four children, three stepsons and seven grandchildren.

Ten days after Dr. Coleman's death, in the same month, another grandson was born who was appropriately named Claude Coleman Sloan, thus doubly insuring the continuation of his name.

The opinions of Dr. Coleman's career and achievements by highly observant laymen including Virginia's two distinguished United States Senators, express the epitome of his accomplishments, perhaps better than this could be done by his medical colleagues. At the time of Dr. Coleman's death, Senator A. Willis Robertson, a friend of Dr. Coleman's since early manhood when they were both practicing, the one law, the other medicine, in Buena Vista, Virginia (1908-9), telegraphed the family as follows: "Dr. Coleman's eminence in his profession was due primarily to two factors, first, an unusual and extraordinary capacity for friendship, combined with the excellent and outstanding quality of his professional work." Senator Harry F. Byrd on the occasion of the celebration for Dr. Coleman said " . . . he is the personification of all those qualities which make our nation great."

J. M. Meredith
I. A. Bigger
F. S. Johns

SOCIETIES

Wise County Medical Society.

In spite of a stormy night and it being the height of the flu epidemic, twenty-two doctors enjoyed a steak dinner and a lecture by Dr. John Paul Urban of Norton on "Treatment of Diabetes," at the February meeting. The picture "Without Fear" was also shown. The following were elected officers for the ensuing year: President, Dr. B. C. Henson, Roda; vice-presidents, Dr. R. N. Shelley and Dr. Lewis Ingram, both of Norton; and secretary-treasurer, Dr. Thomas J. Tudor of Norton, re-elected.

The matter of a Cancer Detection Clinic was discussed and it was decided to have Dr. George Cooper of Charlottesville speak to the Society at its next meeting. It is expected that a diagnostic center will be organized at Norton. Approval of a blood bank at Norton was also given. Applications were presented for two new members who will be voted on at the next meeting to be held on the second Wednesday in April.

Mid-Tidewater Medical Society.

The regular quarterly meeting of this Society was held at West Point on January 27, at which time Dr. William H. Hosfield of that place was installed as president. Following the business session, papers were presented by Dr. Dean B. Cole of Richmond on "Chest Diseases and Changes in Treatment", and by Drs. Frank Johns and D. D. Talley, Jr., also of Richmond, on "A Case Report of Intestinal Obstruction with a Gallstone".

An interesting program on Public Relations, held with the West Point Kiwanis Club at their regular dinner meeting, featured an address by Dr. Vincent Archer, president-elect of The Medical Society of Virginia. Dr. Archer gave a detailed account of the efforts being made by organized medicine in the best interests of the people for their protection, information and health.

The next meeting of the Society is to be held on the fourth Tuesday in April at Urbanna.

Rockingham County Medical Society.

The officers of this Society for 1953 are: President, Dr. E. B. Miller, of Elkton; vice-president, Dr. J. C. Harshbarger, Harrisonburg; and secretary-treasurer, Dr. Clifford T. Riddel, Jr., Bridgewater.

The Tri-County Medical Society

Held its regular monthly meeting at Sunbury, N. C. on January 27th. After a social hour and dinner, Dr. Archie Eagles of Ahoskie, N. C., presented a paper on "Cardiac Emergencies". During the business session the following officers were re-elected to serve for the coming year: President, Dr. T. A. Morgan, Franklin; Vice-president, Dr. W. Holmes Chapman, Jr., Suffolk; Secretary-treasurer, Dr. W. N. Eddy, Suffolk.

The Lynchburg Academy of Medicine

Held its regular monthly meeting at a dinner on February 9. Dr. Robert Moss, Professor of Obstetrics and Gynecology at the University of North Carolina, spoke on "Maternal Morbidity and Mortality". No business was discussed at this time. Dr. C. E. Keefer is president and Dr. Frank N. Buck, Jr., secretary.

NEWS

The World Medical Association,

In conjunction with the Pan American Medical Association, will hold its first Western Hemisphere Conference at Richmond, Virginia, April 23-24. Dr. Louis H. Bauer, Secretary-General of The World Medical Association, writes very fully of this meeting in the Guest Editorial in this issue of the Monthly. We feel honored in having the meeting in our midst.

Pictures of Past Presidents Wanted.

Several years ago, The Medical Society of Virginia collected pictures of its past presidents for display at its 100th Anniversary meeting. The Council has now authorized the office to frame these pictures so they may be preserved for the future. Some of the pictures are still missing, and it is hoped our readers may be able to help us obtain these. Those missing are listed below with the year they served as president:

1849—Name of President Unknown
1855—Dr. H. C. Worsham, Dinwiddie
1857—Dr. James Bolton, Richmond
1874—Dr. Alfred G. Tebault, London Bridge
1883—Dr. William D. Cooper, Morrisville

1885—Dr. Samuel K. Jackson, Norfolk
1889—Dr. Elhannon W. Row, Orange
1896—Dr. William L. Robinson, Danville
1898—Dr. Lewis E. Harvie, Danville

Perhaps you know some of the families of these doctors who may have pictures of them. If you are able to obtain a picture, send it to the Society at 1105 West Franklin Street, Richmond. It will have the best of care and will be returned as soon as a print is made.

The Virginia Diabetes Association

Will hold its annual scientific meeting in Richmond, beginning at 9:00 a.m. on Wednesday, May 6, at the Hotel Jefferson, on the day preceding the annual scientific assembly of the Virginia Academy of General Practice.

Dr. Collins D. Nofsinger of Roanoke, President of the Association, will be in charge of the program which, arranged by Dr. Thomas S. Edwards of Charlottesville, will include papers on the following subjects:

"The Management of the Obese Diabetic"—Drs. Frank A. Wade and H. St. George Tucker—Richmond
"Clinical Symptoms Associated With Kimmelstiehl—Wilson's Syndrome"—Dr. James B. Hutcheson, III—Roanoke
"Choosing Insulin For The Diabetic"—Dr. Wm. R. Jordan—Richmond
"Common Errors In Therapy"—Dr. H. B. Mulholland, *Vice-President, American Diabetes Association*—Charlottesville
Panel Discussion on "Therapy":
Panel Members: Robert C. Crawford, M.D., Roanoke
William R. Jordan, M.D., Richmond
H. B. Mulholland, M.D., Charlottesville
George S. Grier, III, M.D., Newport News

Virginia Chapter, American College of Chest Physicians.

Continuing its custom begun in 1952, this Society will hold its annual scientific meeting at the Jefferson Hotel, Richmond, at 1:30 p.m., May 6th, these two meetings adding interest to those attending the meetings of the Virginia Academy of General Practice the following days.

The papers to be presented will be:

"The Total Approach To The Diagnosis of Tuberculosis"—Carl W. La Fratta, M.D., Richmond
"The Treatment of Chronic Bronchitis"—W. LeRoy Dunn, M.D., Washington, D. C.
"Primary Cancer of the Lung"—Frank Philip Coleman, M.D., Richmond

Virginia Academy of General Practice.

Plans are virtually complete for the third annual Scientific Assembly of the Academy at Hotel Jefferson in Richmond on May 7, immediately following meetings on May 6th of the Virginia Diabetes Association and the Virginia Chapter, American College of Chest Physicians. Dr. E. E. Haddock of Richmond will preside.

Business and committee meetings, during luncheons, etc., will occupy portions of the two-day gathering of the VAGP, which will begin with registration, from 8:00 to 9:00 a.m., on Thursday May 7.

The business meeting, with election of officers, directors and delegates to the Congress of Delegates of the American Academy of General Practice, and annual reports from officers and committee chairmen, will be held at Luncheon, from 1:00 to 3:00 p.m., on Thursday, May 7. The day will be concluded with a Cocktail Party at 6:30 p.m., when the Academy members, their wives and guests will be guests of Van Pelt and Brown, Inc. This will be followed by a Banquet and Dance at 7:30, the guest speaker for the Banquet being Dr. John S. De Tar of Milan, Michigan, of the American Academy of General Practice. A floor show and dance will follow.

Between 50 and 60 pharmaceutical and surgical supply houses will be represented with exhibit booths and a cordial invitation is extended to all to visit these. A large group of Richmond members are actively working toward what appears will be the "biggest and best" Assembly yet held and toward making all in attendance feel "at home" and have a good time.

The complete scientific program appears on page 239 of this issue.

To Organize A Clinic Unit.

Dr. George Zur Williams, professor of pathology and director of the tumor clinic at the Medical College of Virginia, Richmond, has been granted a one-year leave of absence to organize a clinical pathology department at the National Institute of Health at Bethesda, Maryland. He will leave the first of July to establish the department in a recently completed 500-bed clinical center at Bethesda but he expects to make frequent trips to Richmond to continue his cancer research work here.

Scientific Exhibits for Roanoke Meeting.

The Scientific Exhibit Committee of The Medical Society of Virginia is now receiving applications for space at the annual meeting in Roanoke, October 18-21. The scientific exhibits have, in the past, formed a most significant part of the Society's scientific sessions, and the committee is particularly interested in exhibits of a scientific or teaching nature that would appeal to the general practitioner. All members having material of interest should apply for space and it is hoped they may ask for a minimum space that could serve their purpose.

Applications should be made on forms furnished by the Society. Write Dr. Allen Barker, 603 Medical Arts Building, Roanoke, Virginia, for these and return them to him when completed. Applications must be in by July 1st.

Dr. William Cralle Brann,

South Boston, an alumnus of the class of '27, University of Virginia, has been appointed marshal of Acca Temple Shrine for 1953. Dr. Brann received his Scottish Rite degree in November 1945.

Tumor Clinics in Virginia.

With the hope that it might be helpful for the doctors of the State, we publish a list of the Tumor Clinics of the State, brought up to date, with the addresses, names of Directors and times of meetings.

TUMOR CLINICS

ALEXANDRIA:

McCluer Tumor Clinic—Dr. Alvin C. Wyman, Director, Community Health Center, 218 South Columbus Street, Alexandria, Virginia
New Cases—Friday, 9:00 A.M.
Old Cases—Friday, 11:00 A.M.

BRISTOL:

Bristol Memorial Hospital, Tumor Clinic—Dr. George McCall, Director, Bristol, Tennessee
Friday, 2:00 P.M.

CHARLOTTESVILLE:

McIntire Tumor Clinic—Dr. Vincent Hollander, Director, University of Virginia Hospital, Charlottesville, Virginia
New Cases—Wednesday, 10:00 A.M.
Old Cases—Thursday, 2:00 P.M.
New gyn. cases—Tuesday, 10:00 A.M.
Old gyn. cases—Wednesday, 2:00 P.M.

CLIFTON FORGE:

Chesapeake and Ohio Tumor Clinic—Dr. J. M. Emmett, Director, Chesapeake and Ohio Hospital, Clifton Forge, Virginia
Thursday, 1:30 P.M.

DANVILLE:

Memorial Hospital Tumor Clinic—Dr. J. W. Hooker, Director, Memorial Hospital, Danville, Virginia
Thursday, 10:30 A.M.

EASTERN SHORE:

Eastern Shore Tumor Clinic—Dr. John R. Mapp, Director, Northampton-Accomack Memorial Hospital, Nassawadox, Virginia
2nd and 4th Wednesdays—12:30 P.M.

LYNCHBURG:

Lynchburg Tumor Clinic—Dr. Joseph Houck, Director, Dr. John Devine, Jr., Director, 509 Allied Arts Building, Lynchburg, Virginia.
Tuesday, 2:00 P.M., Lynchburg General Hospital

NORFOLK:

Diagnostic Tumor Clinic—Dr. W. B. Wiley, Director, 221 West Bute Street, Norfolk, Virginia
Wednesday, 2:00 P.M.
Tuesday, 1:30 P.M.—Gyn. patients

RICHLANDS:

Try-County Tumor Clinic—Dr. George Vermilya, Director, Clinch Valley Hospital, Richlands, Virginia
New Cases—Thursday, 10:00 A.M.
Old Cases—Thursday, 2:00 P.M.

ROANOKE:

Jefferson Hospital Tumor Clinic—Dr. Alfred P. Jones, Director, 1301 - 1321 Franklin Road, Roanoke, Virginia
Monday through Friday 9:00 A.M. to 3:00 P.M.

Memorial and Crippled Children's Hospital Tumor Clinic—Dr. H. Rowland Pearsall, Director
Tuesdays—1:00 P.M.

RICHMOND:

Medical College of Virginia Tumor Clinic—Dr. Arthur B. Gathright, Jr., Director, 1200 East Broad Street, Richmond 19, Virginia
Tuesday—General, 8:30 A.M.
Wednesday—Gyn., 8:30 A.M.
Thursday—Head and Neck, 8:30 A.M.
Friday—G. U., 12:00 Noon

SUFFOLK:

Louise Obici Memorial Hospital Tumor Clinic—Dr. Lawrence J. Stetson, Director
2nd and 4th Tuesdays—4:00 P. M.

Virginia Host to National Conference on Rural Health.

More than 600 representatives of medical, agricultural, university extension services and other groups attended the Eighth National Conference on Rural Health in Roanoke, February 27-28. This was the largest attendance in the history of the Conference. Forty-two states and the District of Columbia were represented.

The two day program was woven about the theme

"Widening the Highways to Health", and featured many of the outstanding speakers in the rural health field.

Dr. Louis H. Bauer, President of the American Medical Association, emphasized the necessity of each community making a concerted effort to bring the highest standards of medical care to their area. "No one organization can do the job by itself", said Dr. Bauer. "It requires a community effort."

"One of the difficulties in the past has been the developing of some means to attract physicians to those regions lacking them. A physician who has spent 8 to 13 years of his life in being trained to practice modern medicine is not willing to settle in an area where there are no facilities for practicing such a type of medicine. Increasing the number of physicians will not do it, as they would still tend to congregate in cities.

"In some states, the problem has been solved by the community providing medical facilities and then permitting the physician to rent those facilities or to buy them through gradual amortization. Where this has been done, physicians have been obtained."

He also pointed out that in these days of good roads and automobiles a physician can cover a wider territory than before, and is able to take care of more people.

"Every community does not need a hospital so long as one is available within a reasonable distance and good roads lead to it", he added.

Virginians appearing on the program were Dr. James L. Hamner, President of The Medical Society of Virginia, Dr. Paul D. Sanders, Editor of the *Southern Planter,* Earl J. Shiflet, State Deputy of the Virginia Grange, and Miss Janet L. Cameron, nutrition specialist of V.P.I. Agricultural Extension Service.

News from the State Health Department.

Dr. Paul J. Christenson resigned as Health Officer of Alleghany-Bath-Highland Health District on March 15, 1953.

Dr. Walter Johnson retired as Health Officer of Fauquier-Prince William-Rappahannock Health District on April 1, 1953. He was replaced by Dr. L. T. Giles.

American Psychiatric Association.

The annual meeting of this association is to be in Los Angeles, California, May 4-9, under the presidency of Dr. D. Ewen Cameron, of Montreal, Canada. Dr. R. Finley Gayle of Richmond, Virginia, is secretary. The association has a membership of 7,200 persons in the United States and Canada and it is expected there will be an attendance of 3,500 with their wives at this meeting.

Surgeons' Hall of Fame Planned by International College of Surgeons.

Upon the suggestion of Dr. Max Thorek of Chicago, founder and secretary-general of the Internation College of Surgeons, the Board of Trustees of the College voted to accept his suggestion and proceed with the plan of having a Surgeons' Hall of Fame in their new building which has been purchased next door to their present offices on Lake Shore Drive in Chicago. It is planned to have individual niches in this building for busts of the great surgeons to be commemorated, together with special lighting and bronze plaques detailing their contributions to human welfare. Those honored will be chosen by vote of an electoral college, with representatives from every part of the world. Dr. Rudolph Nissen of the University of Basel, Switzerland is chairman of the Board of Trustees of the College, and Dr. Morris Fishbein of Chicago is co-chairman.

The American College of Allergists.

The annual conclave of the College will be held this year at the Conrad Hilton Hotel in Chicago April 24 to April 29.

The first four days will be devoted to instruction under the tutelage of recognized authorities and the last three to a discussion and reporting of recent advances in the field of allergy by the investigators themselves. For detailed information write The American College of Allergists, La Salle Medical Building, Minneapolis 2, Minnesota.

Dr. Galen G. Craun

Has been elected new president of the Harrisonburg (Va.) Rotary Club and will take office July 1.

A Conference on Diabetes and Its Complications

Is to be held on Friday, April the 17th in the Medical School Auditorium (basement of Medical School) at the University of Virginia, Charlottesville. Physicians who have not registered should do so promptly, addressing the office of the Dean, School of Medicine at the University.

The program starts at 9:00 a.m. and lasts until late afternoon, with morning and afternoon intermissions

in addition to time for lunch. The first feature will be an Introduction and Welcome by Thomas H. Hunter, M.D., new Dean of the School of Medicine, after which talks will be given on

Some Fundamental Principles of Carbohydrate Metabolism—D. R. H. Gourley, Ph. D.

Office Management of Diabetes Mellitus—H. B. Mulholland, M.D.

The Clinical Use of Insulin—Arthur H. Colwell, M.D., Chicago

Treatment of Diabetic Acidosis—K. R. Crispell, M.D.

Renal, Retinal and Neural Complications of Diabetes—T. S. Edwards, M.D.

The Action of Insulin—Charles H. Best, M.D., Toronto

Diabetes and Pregnancy—Wm. N. Thornton, Jr., M.D.

Diabetes and Arteriosclerosis—William Parson, M.D.

Surgical Complications of Diabetes Mellitus—W. R. Sandusky, M.D.

These talks will be followed by a Question and Answer Panel with Dr. Mulholland as Moderator.

American Board of Obstetrics and Gynecology.

The next scheduled examinations, Part II (oral and pathological), for all candidates will be held at The Edgewater Beach Hotel, Chicago, by the entire Board from May 17 through May 24, 1953. Formal notice of the exact time of each candidate's examination will be sent him several weeks in advance of the examinations.

Applications for Certification for the 1954 (Part I) examinations are now being accepted, and candidates are urged to make such application sometime in August or September. This would be of great help in expediting processing of these applications.

Requests for Applications for Appraisal of Incomplete Training Applications for Certification, current Board Bulletins, and Preceptorship or Supplemental Training Forms should be made to: Robert L. Faulkner, M.D., Secretary, American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

The Eastern States Health Education Conference

Of the New York Academy of Medicine will be held on Thursday and Friday, April 23rd and 24th, 1953. The program will include four sessions and an evening dinner meeting on Thursday evening.

The subject of this year's Conference will be *The Sociology of Health Education.*

In this program the sociologist, the anthropologist, and the social psychologist will analyze from the vantage point of their respective disciplines the functions of health education, with special emphasis on the problems of *Communication.*

Participation in the Conference is limited. Those interested in the Conference should address themselves to Dr. Iago Galdston, The New York Academy of Medicine, 2 East 103 Street, New York 29, N. Y.

Over the Top for Hospital Expansion.

Employees of Eli Lilly and Company went over the top in their recent campaign for contributions to the hospital-expansion fund in Indianapolis. The Lilly employee pledges, averaging $40.50 per person, will provide forty-eight critically needed new hospital rooms in Indianapolis.

The first project to be financed by the fund will be a new 300-bed east-side Community Hospital at an estimated cost of $4,800,000. Other projects planned include a new 100-bed Norways Foundation Hospital; added facilities for 104 beds at St. Francis Hospital; and addition of 224 beds and added nurses' residence facilities at Methodist Hospital.

Parke, Davis and Company Awarded Certificate

The American Institute of Management, which makes a continuing study of over 3,000 companies in all industries, has awarded a "certificate of management excellence for the year 1952" to Parke, Davis & Company.

The institute head said "This signifies that your company has achieved a degree of management excellence that is worthy of emulation by all companies concerned with the improvement of management operations throughout the country."

The Southeastern Allergy Association

Will hold its next meeting at the Andrew Jackson Hotel, Nashville, Tennessee, May 15 and 16, under the presidency of Dr. Clarence S. Thomas of that city.

For further information, write the secretary, Dr. Katharine B. MacInnis, 1515 Bull Street, Columbia, South Carolina.

The First World Congress on Fertility and Sterility,

Sponsored by The International Fertility Association in conjunction with The American Society for the Study of Sterility, will be held in New York City, May 25-31, at the Henry Hudson Hotel, immediately preceding the A.M.A. meeting. Owing to the fact that there will be seat limitations, it is

strongly urged that advance registration be made to insure reservations. Address Chairman, Arrangements Committee, World Congress on Fertility and Sterility, 1160 Fifth Avenue, New York 29, N. Y.

Rocky Mountain Cancer Conference.

Knowing that many doctors from all parts of the country planning July vacations like to include a few days in Colorado and arrange dates so as to include some medical meeting, Mr. Harvey Sethman, Executive Secretary of the Colorado State Medical Society, calls attention to the fact that the Seventh Annual Rocky Mountain Cancer Conference will be held in Denver on July 8 and 9. As in previous years there will be eight outstanding guest speakers, and on the first evening a banquet and entertainment for both the doctors and their ladies. There is no registration fee for this Conference and a warm welcome will await any of our members.

Dr. McCormick's Inaugural to Be Broadcast Nationwide.

The presidential inaugural address of Dr. Edward J. McCormick will be broadcast nationwide on Tuesday evening, June 2. The program will originate from the Commodore Hotel, New York, during the AMA's 102nd annual meeting. Immediately following the ceremony, a reception honoring the new president will be held in an adjoining ballroom.

Schering Award for Medical Students.

The Schering Award competition for 1953, in the nation's medical schools, seeks to encourage original reporting, in the hope that the students will later contribute substantially to the development and communication of knowledge throughout the medical profession. Three $500 prizes will be awarded for the papers judged most distinctive by a panel of leading medical authorities on the subjects covered. Other awards will be arranged for meritorious papers where several apply from same school.

Titles of the three general topics are: antihistaminic treatment of upper respiratory allergies and infections; hormone therapy of the degenerative diseases; and new concepts in the treatment of peptic ulcer.

The deadline for entry forms specifying the title chosen by the student is July 1. The actual manuscript must be postmarked by October 1.

All students duly matriculated in medical schools in the United States and Canada, including those who have participated in previous competitions, are eligible. Manuscripts are limited to 5000 words.

Information and instructions for the competition in 1953 are available from Schering Corporation, 2 Broad Street, Bloomfield, New Jersey.

The Virginia Society of Anesthesiologists.

At its annual meeting held in Richmond, March 7, 1953, the following officers were elected: President, Dr. Harold F. Chase, Charlottesville; Vice-president, Dr. W. E. Pembleton, Richmond; and Secretary-Treasurer, Dr. John L. Rosenthal, Norfolk.

For Sale to Settle an Estate.

Mobile X-Ray Department. Sacrificed at $1,500.00 1—G.E. Model D X-Ray Unit like new; 1—14x17 Cassette good par speed screens; 1—8x10 Cassette good par speed screens; 1—Portable Buck; 1—Fluorescent Illuminator; 1—Kodak safe light; 1—3-gal. three compartment Developing tank, and interval timer.

Also 1—Scanlan-Morris Battery Sterilizer consisting of: Autoclave 12x24; Water Sterilizers (Hot and cold) 5-gal. capacity; Instrument & Utensil Sterilizer 20x24; Electrically operated on 230 v. Power. Good condition—approximately twelve to fifteen years old. $500.00. Write Mrs. R. C. Fravel, Woodstock, Va.

OBITUARIES

Dr. Robert W. Holley

Of Appalachia, died February 11, of a cerebral hemorrhage, after an illness of some time. He was born on June 14, 1877 in Washington County, Virginia, and graduated in medicine from the Medical College of Virginia in the class of '99. He was a member and past president of the Wise County Medical Society, and a member of his State and the American Medical Associations, as well as several fraternal and civic organizations. In 1949 he was made a Life member of The Medical Society of Virginia. His wife and two daughters survive him.

Dr. Joshua Warren White,

A leading physician of Norfolk, died March 4 in Palm Beach, Florida, where he was spending a vacation. A native of Charlotte County, he was 77 years of age and graduated from the Medical College of Virginia in 1901. He interned at St. Vincent's Hospital, Norfolk, after which he located in that city and had always taken a prominent part in the activities of that city. During World War I he served in the Army Medical Corps and was chief of the ophthalmological department at a hospital in France. He was a past president of the Norfolk County Medical Society and was a member of The Medical Society of Virginia, of which he was made a Life member in 1951. He was on the ophthalmological and otolaryngological services of all the Norfolk hospitals. His wife and a son survive him.

Dr. Forrest McLean Bennett,

A practicing physician in Richmond for the past 36 years, died February 14. A native of North Carolina, he was sixty-five years of age and a graduate of the Medical College of Virginia in 1914. After an internship at St. Elizabeth's Hospital, he located in this city. He was a member of his local and State medical societies and of the American Medical Association. He was a Mason and a Shriner. His wife and a son survive him.

Dr. William Wingfield Wilkinson,

Widely known physician of LaCrosse, died February 23, at nearly 75 years of age. He was a graduate of the former University College of Medicine, Richmond in 1901, and had practiced in Brunswick and adjoining counties ever since. He was on the Board of Visitors of the Medical College of Virginia for a number of years, and had taken an active part in the civic and religious work of his community. He was also a Mason. He is survived by his wife and two children.

Resolutions Concerning Death of Dr. J. G. Davis.

The Roanoke Academy of Medicine adopted the following resolutions on death of Dr. J. G. Davis of that city:

Dr. J. G. Davis, Roanoke's oldest practicing physician, died Saturday night, January 31, 1953. He was 89 years of age.

Often called Roanoke's last horse and buggy doctor, Dr. Davis had practiced in Roanoke since 1905. He was always very active and had been making calls until he became sick about two days ago. Dr. Davis devoted most of his time to his practice and his only two affiliations were the Knights of Pythias and the Episcopal Church.

Dr. Davis was graduated from the Medical College of Virginia in 1885 and was a member of the first class to take the Virginia State medical examinations. He practiced medicine in West Point and Boones Mill and in Montgomery County before coming to Roanoke.

When he first came here, he made calls with a horse and buggy. About 1909 he bought a Model-T Ford in which he made his calls at any time of night or day. He had five sons, a grandson, granddaughter and brother who also were graduated from the Medical College of Virginia, making nine members of the Davis family who were graduated from the medical school.

Surviving are: four sons, Dr. Paul Davis, Dr. Fred Davis, Dr. Algie Davis and Dr. Hal Davis, Roanoke; a daughter, Mrs. R. E. Paine, also of Roanoke; 17 grandchildren and 16 great grandchildren.

WHEREAS, the medical profession and our entire community has sustained a great loss in the death of our esteemed colleague, Dr. J. G. Davis, be it

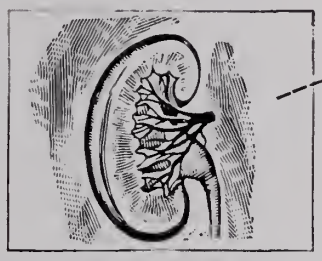
RESOLVED: that we, the members of the Roanoke Academy of Medicine extend to his family our deepest sympathy.

BE IT FURTHER RESOLVED: that these resolutions be embodied in the minutes of the Roanoke Academy of Medicine and copies sent to his family and to The Medical Society of Virginia.

B. P. SEWARD
GEORGE B. LAWSON
K. D. GRAVES, *Chairman*

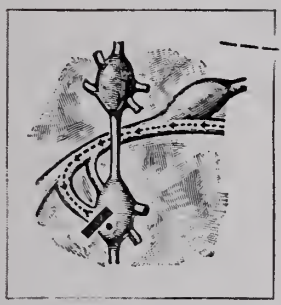
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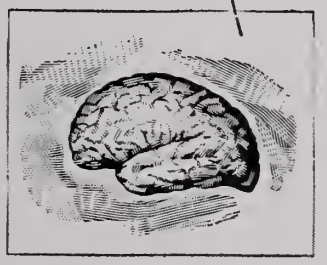
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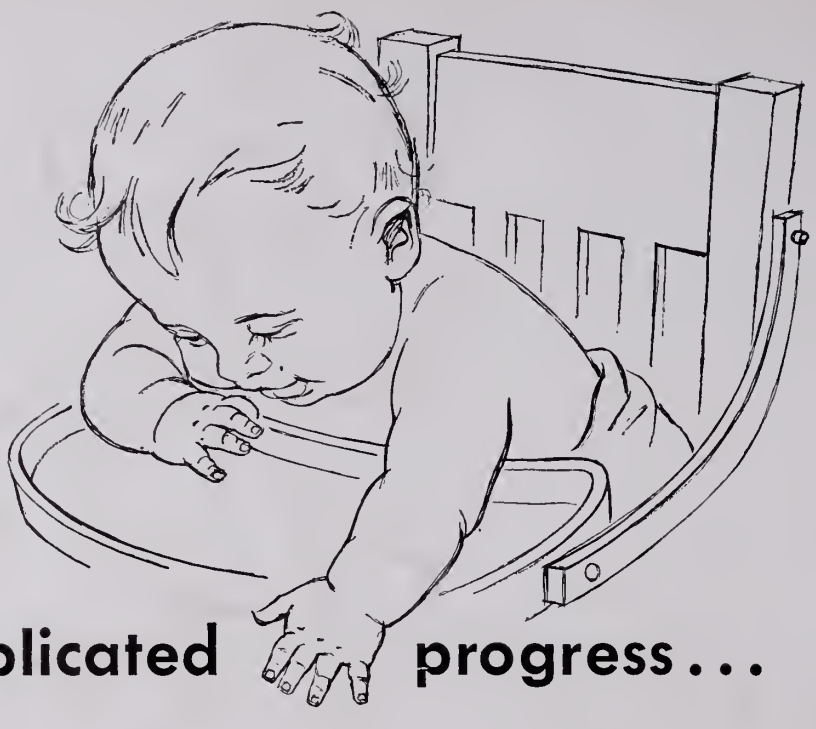


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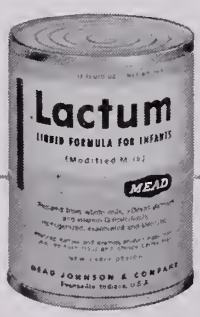
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Health and development	excellent

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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY

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Ever see a "telegram" from your heart?

You are looking at an electrocardiogram, a record of the tiny electrical impulses given off at each beat of your heart.

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Yet, even when the heart sends out a message of trouble, it does not necessarily mean impending tragedy. For even a defective heart is capable of working for years if not overburdened.

Thousands of people are living good lives with bad hearts because they acted wisely and in time.

First, they did not ignore the warnings that often precede heart trouble—shortness of breath, pains in the chest, irregular beating of the heart, and unusual fatigue. They heeded these warnings in time, knowing that their greatest security depended on taking prompt advantage of the help which medical science could give them.

Second, they accepted the restrictions and restrictions imposed by a weakened heart. They tried not to "over-do", they learned to avoid sudden exertion, and to keep weight at the normal level. They also recognized the value of sleep and relaxation, and the importance of freeing their lives from worry and strain.

Remember that in your physician's hands, you are in good hands. For today physicians are better equipped than ever before to treat and control heart disease—and to guard against it as well. By taking advantage of the help your doctor can give you now, you increase your chances of living a good life with a bad heart.

Research grants from the National Heart Institute, the American Heart Association, scores of universities, hospitals, pharmaceutical companies, public and private foundations, and individuals, including many thousands of physicians, have helped to bring us much of the knowledge we have today about heart disease. Parke, Davis & Company, as a part of its program of research in the sciences of health, is proud to help in such a good cause. Currently, we have 18 full-time members of our professional staff engaged in cardiovascular research. Our own research laboratories are among those participating in the nationwide search for the causes of heart disease.

PARKE, DAVIS & CO.
Research and Manufacturing Laboratories, Detroit 32, Michigan

SATURDAY EVENING POST



This man is his own worst enemy! Yet most of us can sympathize with him—for most of us don't "run to the doctor" every time we have an ache or pain.

We're much more likely to say "Oh, I'm all right. It's really nothing." Or to tell ourselves "I'm too busy . . . haven't time to bother with doctors."

Yet, the man (or woman) who ignores seemingly minor symptoms often runs the risk of causing more serious ailments. That's how diseases thrive on neglect, the worst thing we can do is to ignore warning symptoms until it may be too late for the doctor to help.

Medical research in America today is a shining one of the most heart-warming chapters in the story of mankind. Our great laboratories, our hospitals, universities, and a host of governmental and private organizations are cooperating as never before to improve our chances of living a longer, healthier life.

Your own doctor has at his disposal all of the discoveries, all of the knowledge of modern medical science. But you are the only one who can put these vast resources to work to help you.

So next time you are tempted to ignore warning symptoms, remember that your greatest danger lies in neglect and delay. Remember—is your physician's hands, you're in good hands. But only by acting promptly can you take advantage of the help he can give you now.

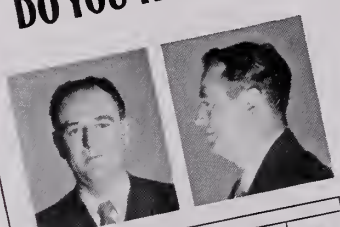
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LIFE

DO YOU KNOW THIS MAN?

HIS NEGLIGENCE IS CAUSING THOUSANDS OF DEATHS FROM HEART DISEASE



RIGHT HAND

LEFT HAND

Here's a description of the culprit:

Overweight. Short of breath. (The old ticker really pounds on a flight of stairs.)

Often over-exercises on week-ends after a sedentary week. Sometimes bothered by a peculiar swelling in the ankles.

Works too hard. (Feels he's indispensable on his job.) Has trouble relaxing. Worries. Sleeps poorly. Complains of being "always tired."

Had a couple of attacks of "indigestion" recently. When asked by wife to please check with doctor, was heard to reply: "What for? I'm not sick . . . besides I'm too busy!"

The greatest problem in dealing with heart disease today is the man (or woman) who ignores the "danger signals" until it may be too late to take advantage of the help which medical science today is prepared to give. Yet, thousands of people are living good lives with bad hearts . . . because they acted wisely and in time . . . because they knew that in their physicians' hands they were in good hands.

For it is a fact that much progress has already been made in dealing with heart ailments, and more and more research is being carried on, largely through such great agencies as the American Heart Association and its nation-wide chapters, the National Heart Institute, and a number of pharmaceutical companies including Parke, Davis & Company, since 1900 makers of medicines prescribed by physicians.

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Virginia Medical Monthly

Vol. 80, No. 5
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RICHMOND, VA., MAY, 1953

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GUEST EDITORIAL

Recent Advances in Cardiac Surgery

NOT since the Oklahoma Land Rush has an area been opened, explored, and settled with the speed that has characterized the development of cardiac—particularly *intra*cardiac—surgery. The distinction is a practical one. Operations related to the pericardium and the great vessels can be carried out under direct vision. Many times they are curative in the sense that surgical correction of inguinal hernia is curative, and it is usually easy to appraise their value. On the other hand, with few exceptions, intracardiac procedures have been "blind". Though deliberate and accurate so far as the sense of touch permits, rarely are they curative in the sense that the division of a patent ductus is curative. They do not aim to cure but to improve. Objective measurement of this improvement is a major problem for in no other branch of surgery do subjective factors play a greater part, and in no other group of patients is there a greater emotional charge.

The recent literature which deals with cardiac surgery contains an impressive list of technical advances. It also provides new and revised concepts of pathology and physiology based on observations in the living. It reveals, however, a surprising deficiency of clinical and laboratory follow-up. In part this deficiency can be justified on the ground that progress is not served by caution that condemns *all* conclusions to a decent waiting period of five years. On the other hand there is real need for critical evaluation as we progress.

One of the best ways to supply this need is accurate clinical appraisal of an individual patient's problem in terms of the natural history of a disease. To do this requires time, patience, and experience, in medical management. It is essential to recognize both the limitations of "conservative" measures, and also the situation where operation represents a poor substitute or short-cut for careful management. Survival figures are useful, but only if adequate "controls" are available. The fact that a patient refuses surgery does not necessarily make him a control, and even in this enlightened age it may be permissible for a patient to die without benefit of surgery.

Statements of improvement are notably hard to assess. If they are based upon increase in work tolerance, decrease in objective signs and the need for medications or dietary restrictions, they may mean a great deal. Insofar as such statements are objective they are among the best measurements we have, particularly if they reflect no real change in quality and enthusiasm of medical management. Certain readily available laboratory studies such as measurement of heart size or peripheral cyanosis are also reliable indices. Most useful of all laboratory data is that obtained by cardiac catheterization, especially if observations are made in the same laboratory under comparable conditions before and after a given procedure. This is a method of study which is extremely valuable in clinical investigation but we are only beginning to learn its clinical significance. For example, in pulmonary stenosis we can measure the degree of right ventricular hypertension that exists, but cannot say, except arbitrarily, what a critical level may be. To do this will require many observations over a long period of time. Mitral regurgitation is another example. This is a difficult

lesion to study, complicated, as it usually is, by some measure of stenosis.

It is unreasonable to insist that all patients undergoing cardiac surgery be studied exhaustively in the laboratory. However, it is reasonable to require that any new procedure be subjected to careful clinical and laboratory control and that we do not confuse crusade with progress.

J. GORDON SCANNELL, M.D.

Dr. Scannell is an Assistant Surgeon at Massachusetts General Hospital, and Instructor in Surgery at Harvard Medical School.

Floral Eponym

LOBELIA

LOBEL, MATTHIA DE, (1538-1616)

Matthias de Lobel, a famous botanist and physician, was born at Lille and took his doctor's degree at Montpellier in 1568. He practiced at Antwerp and Delft where he was the physician to William of Orange. Later he entered the service of James I of England as botanist and physician. He was the first to attempt to classify plants by structure. He died at Highgate March 2, 1616.

much used in the garden for edging plants. L.*inflata* is the source of several alkaloids,

Lobelia is a large genus of showy-flowered annual or perennial herbs. They are including lobeline, which have emetic, respiratory, and vasomotor action.

USES OF PROCAINE FOR PURPOSES OTHER THAN THE PRODUCTION OF LOCAL ANESTHESIA

J. H. Weatherby, Ph.D.
Department of Pharmacology, Medical College of Virginia,
Richmond, Virginia.

Seldom if ever in the history of pharmacology and therapeutics has a single chemical or drug been found to possess as many diverse uses as have been discovered for procaine. While it has found wide application as a local anesthetic since its introduction by Einhorn in 1905, its uses for purposes other than the production of local anesthesia in the conventional manner have been discovered for the most part during the past decade. On first thought one might be inclined to suggest morphine or one or another of the antibiotics—perhaps penicillin or aureomycin—as drugs also possessing extraordinarily wide application. Unquestionably this is true of these latter drugs, but never-the-less it appears likely that procaine deserves a place alone, at least for the present. Morphine is used under many diverse conditions, but these conditions usually are characterized by a single symptom or related symptoms (pain and its associates) which call for its use. Similarly, the antibiotics are used for a single purpose, the control of infections by microorganisms, though it is admitted that the symptoms and diseases which may be so controlled often present quite varied pictures. Probably some of the systemic applications of procaine depend for their usefulness on its action as a local anesthetic, while others appear to be associated with its antihistaminic properties, and perhaps still others on properties not yet fully understood. Whatever may be the underlying explanations undoubtedly procaine possesses an extraordinarily wide field of usefulness. A reasonable degree of freedom from prolonged or permanent pharmacological effects of an unfavorable nature, and the rapidity with which it is destroyed in the body contribute to its relative safety. However, one should not ignore the fact that disagreeable, or even disastrous results, have been reported.

In preparing this review no attempt has been made to include the entire literature concerning procaine. Rather, it has been the author's intention to refer to those papers which provide the foundation for the many newer uses of this drug which are not directly associated with the production of local anesthesia by conventional methods. While a serious effort has been made to adhere to this intention it is not unlikely that there have been omissions. It is hoped that these will not be of a serious nature.

Intractable Pain

In many instances the intravenous administration of procaine has been accompanied by relief of severe pain not afforded by more conventional procedures. According to Gordon[1] the earliest recorded intravascular injection of a local anesthetic agent was made by Goyanes of Spain who, in 1908, gave such an agent intraarterially for the production of anesthesia in extremities after the application of a tourniquet. This was followed a year later by the report of August Bier[2] of Bonn, Germany, who practiced the intravenous injection of local anesthetic agents for a similar purpose. Bier first applied an Esmarch bandage to expel the blood from the vascular bed, after which a tourniquet was applied to prevent entry of the drug into the general circulation. Apparently these early practices were received with little enthusiasm by the medical profession because it was not until thirty years or more later that the practice of intravascular injection of local anesthetics was given a critical reexamination. In his book on *Clinical Anesthesia* published in 1942 Lundy[3] suggests the intravenous injection of about 20 cc. of 1% procaine hydrochloride solution for the relief of intolerable pruritus in certain greatly jaundiced patients. The following year Gordon[1] appears to have touched off widespread interest in this application of procaine by his use of it to control pain in a series of ten cases of severe burn. According to Gordon pain originating in the burned areas was relieved promptly without any obvious local anesthetic effect on normal tissues adjacent to these areas.

Intravenous procaine has been found to possess a powerful capacity for relieving pain of both sympathetic and somatic origin. According to Graubard and Ritter[4] procaine becomes seven to eight times more concentrated in inflamed tissues than in normal because of increased capillary permeability in the

damaged or diseased tissue responsible for the pain. In its action on nerves it appears to follow the generalization that the smallest fibers are affected first; that is, the sympathetic fibers and those conducting pain impulses. Motor fibers generally are not involved except with much higher concentrations. Whether or not intravenous procaine in small to moderate amounts will provide relief from pain in areas in which there is no inflammation or increased capillary permeability has not been ascertained with certainty. Probably this question is of limited practical importance in any event, since most areas in which pain originates are likely to exhibit these changes which favor concentration of procaine in effective amounts.

The types of pain for which procaine has been found effective are many and varied. McLachlin[5] found it superior to morphine in the control of post-operative pain; Graubard, Robertazzi and Peterson[6] and Allen, Crossman and Lyons[7] used it with success in angina pectoris; Graubard, Kovacs and Ritter[8] found it effective in destructive arthritis; Barber and Tovell[9] used it in thrombophlebitis; Stein[10] found it helpful in intermittent claudication of vascular disease; Allen, Crossman and Lyons[7] used it for the relief of pain in a case of herniated nucleus pulposus prior to surgical intervention; Thomas and Kamath[11] administered procaine orally for the relief of pain in peptic ulcer; Perroni[12] found that migraine may be relieved by the intravenous administration of procaine in many instances in which it is refractory to other forms of treatment; and Lemoine[13] found intravenous procaine capable of controlling pain in biliary and renal colic.

In a highly informative paper Graubard and Peterson[14] report their observations on the effectiveness of intravenous procaine in a wide variety of pathological conditions. In most instances pain was a prominent feature. The following list is prepared from this paper, with an indication of the nature of the results obtained in each instance:

1. traumata—good.
2. fractures—controls post reduction pain, but not a satisfactory anesthetic for reduction.
3. post-reduction arthralgia—good.
4. sprains—good.
5. traumatic arthritis—good.
6. myofascitis—helpful.
7. herniated intervertebral disk—not helpful.
8. post-operative pain—good.
9. reflex sympathetic dystrophy—dramatic.
10. head injuries—sometimes helpful.
11. rheumatoid arthritis—helpful.
12. acute rheumatic fever—results were encouraging in the single severe case so treated.
13. neuritides—variable; not helpful in tic douloureux.
14. vascular diseases—often helpful.
15. arterial embolism—marked improvement in two cases.
16. thrombophlebitis—results gratifying.
17. subdeltoid bursitis—satisfactory.
18. osteoarthritis—generally good.
19. acute poliomyelitis—relief from pain.
20. chronic poliomyletis—improvement.
21. congenital spastics—improvement.
22. paralysis agitans—some improvement, but slow.

Graubard and Peterson[14] observed that the simultaneous administration of vitamin C was helpful in preventing complications which sometimes are associated with the intravenous administration of procaine. In a single case of hernia of the nucleus pulposus no relief from pain was obtained, a fact which these authors consider a valuable sign in the differential diagnosis of low backache. However, Allen, Crossman and Lyons[7] found intravenous procaine effective in relieving pain in such a case confirmed at operation.

Graubard and Peterson[15] gave a total of 1894 intravenous injections of procaine to a series of 250 patients. Of these 54 were cases of rheumatoid arthritis, 42 were of arthritis due to injury, and 154 were cases of degenerative diseases of the joints. The standard dose or "procaine unit" was 4 mg. of procaine hydrochloride per kg. administered as 0.1% solution during a period of 20 minutes. There was no mortality or morbidity, and the results obtained were considered satisfactory. Most patients obtained considerable relief from pain. On the other hand, Marton, Spitzer and Steinbrocker[16] found procaine generally disappointing in the treatment of 33 cases of painful, chronic neuro-musculo-skeletal disorders. Of these, only one patient showed marked improvement, 4 moderate improvement, and there was one fatality attributed to procaine. The dose administered was 6 mg. per kg. during a period of 20-30 minutes.

Keats, D'Allessandro and Beecher[17] found procaine disappointing as a therapeutic agent for the relief of post-operative pain. In a series of 53 patients, saline, procaine and morphine were administered intravenously. The saline was given first as

a placebo; those patients not relieved by this measure were then given 4 mg. per Kg. of procaine, and if that also proved ineffective 8 mg. of morphine per 70 Kg. were administered. Of these patients 20% obtained relief from the saline, 40% from the procaine, and 70% from morphine. It should be noted that the relatively low figure of 70% with morphine was obtained on patients who had already been found resistant to procaine. The opinion expressed by these authors is that "The analgesia produced by intravenous procaine was accompanied by frequent unpleasant and sometimes serious-side-actions. Unless procaine, administered by this route, can be demonstrated to produce beneficial effects on specific disease processes, it has no place in the treatment of pain."

It is difficult to account for the widely different results obtained by various investigators in this field. Graubard and Peterson[15] offer the explanation that some investigators used too little procaine to accomplish the result and too little ascorbic acid to control the undesirable side effects. However, it is doubtful if the earliest investigators used any ascorbic acid at all, and yet quite favorable results were reported in many instances. Presumably some of these discrepancies may be removed by carefully controlled observations conducted jointly by two or more groups whose previous results have been in disagreement. Surely the problem is of sufficient importance to justify a concerted effort to obtain its solution.

General Anesthesia

Allen[18] developed the idea mainly from the work of Gordon[1] on burns and of McLachlin[5] on post-operative pain that the action of procaine might be extended to the relief of pain in obstetrical cases. This proved to be true, a fact which will receive further consideration later. It is mentioned at this point because its obstetrical use apparently led to its application by Allen, Crossman and Lyons[7] in the production of general surgical anesthesia. In these surgical cases 1% procaine hydrochloride in 5% glucose solution was administered by intravenous infusion, the rate being varied to suit the immediate needs of the case. While a rate of infusion of a few cc. per minute may be sufficient to relieve pain in many instances without any appreciable dulling of consciousness, a much higher rate was found necessary to produce loss of consciousness and anesthesia. A change in depth of anesthesia promptly followed a change in rate of infusion. At the faster rates muscular twitching or even mild convulsive seizures occurred. These effects subsided within a minute or two on discontinuing the infusion or they could be controlled by the intravenous administration of one of the barbiturates such as amobarbital (Amytal). Recovery from such anesthesia is prompt and practically devoid of undesirable after effects.

Interest in intravenous procaine as an anesthetic agent spread rapidly. Bittrich and Powers[19] report 17 cases of thoracic surgery in which cyclopropane, ether, nitrous oxide and thiopental were used at one time or another to reinforce the anesthetic effect of procaine and to assist in controlling its convulsant tendency under full anesthetic dosage. Bronchospasm and coughing were relieved, the patient tolerated the operations better, there was less evidence of shock, and recoveries from anesthesia were less difficult than those customarily seen. Fraser and Kraft[20] report over 1500 intravenous administrations of procaine during a period of approximately three years. These authors used a mixture of 0.05% to 0.1% procaine hydrocloride and 0.1% to 0.2% thiopental sodium in 5% glucose saline solution rather than the stronger solution used by Allen *et al*,[7] although 1% procaine solution was kept at hand for use in the event that the weaker solution did not meet the requirements. Usually the mixture was used in combination with spinal or inhalation anesthesia. Edmonds, Comer, Kennedy and Taylor[21] used intravenous procaine in 400 anesthesias, and found it of greatest value in thoracic operations, thyroidectomies and in many superficial procedures for which one wishes to maintain light anesthesia. In the average adult patient a total dose of 1 to 3 gm. per hour was found sufficient. These authors stress the danger of circulatory depression from an overdose and recommend utmost caution to avoid it. Taylor, Stearns, Kurtz, Henderson, Sigler and Notle[22] report 211 administrations of procaine intravenously, mostly for thoracic surgery. Usually anesthesia was induced with thiopental, either with or without curare, after which the infusion of procaine (1% in 5% glucose) was begun. This was supplemented with nitrous oxide-oxygen by inhalation, and with additional thiopental if necessary. The following advantages were noted: (a) the

cough reflex is depressed enough to allow an endotracheal airway in most patients during light anesthesia without coughing; (b) procaine is relatively effective in preventing cardiac arrhythmias during intrathoracic operations; and (c) sweating is depressed, the skin being dry and warm. Doud[23] lists 80 cases of which 38 were obstetrical and the remainder representative of a general surgical practice. Again 1% procaine in 5% glucose solution was used in association with one of the barbiturates, frequently amobarbital. The largest amount of procaine used by Doud in any one case was 10.5 grams during a period of two hours and ten minutes. The author describes the anesthetic procedure in considerable detail.

Obstetrical Analgesia and Anesthesia

Apparently Allen[18] is responsible for the introduction of intravenous procaine medication for this purpose. His report and those of Johnson and Gilbert[24] and Doud[23] are highly informative. Several important advantages have been noted: (a) during labor pain may be controlled satisfactorily without producing so much central depression that the patient is unable to understand instructions and to cooperate; (b) strength of uterine contractions is not decreased, nor is there undue prolongation of labor —at least not in most instances; and (c) procaine does not appear to cross the placental barrier so that the baby is not affected by the anesthetic agent.

Cardiac Arrhythmia

The effect of procaine in contributing to the control of cardiac irregularities, particularly those associated with cyclopropane anesthesia and cardiac surgery, has been mentioned above. However, the problem of arrhythmia is not simple. There are many circumstances and contributory factors which make of it something that is exceedingly complex. The control of arrhythmia, particularly during surgery, is ably discussed by Harken and Norman[25] and an extensive bibliography on the subject is given by them. Others who have contributed to this phase of the subject include Kochmann, and Daels[26], Mautz[27], Beck and Mautz[28], Shen and Simon[29], Burstein, Marangoni, DeGraff and Rovenstein[30], Dawes[31], Burstein[32], and den Otter[33]. Depending on circumstances it may be applied by intravenous injection, intracardiac injection, or topically to the surface of the heart.

Vascular Disease

The first application of procaine by intravenous injection to peripheral vascular disease appears to have been made by Stein[10]. Twenty-five patients received daily infusions on 10 consecutive days of 1000 cc. of 0.5% procaine in saline or glucose. In 15 cases of arteriosclerosis obliterans all but one had complete relief from pain and claudication at the end of the ten day period; of 8 patients followed for 6 months or longer relief persisted in 6. In 7 cases of diabetic gangrene relief from pain was obtained, although the response was not as satisfactory as in the previous group. In 3 cases of arteriosclerosis obliterans with ulcerations decided relief was obtained in 2, with improvement in the ulcerative process. Some or all the patients in each group were given glucose or saline solution alone for control purposes. In no instance did this cause improvement, and in some the discomfort appeared to be even greater.

Hypertension

In the treatment of hypertension Beckmann[34] found that a considerable drop in blood pressure (50-100 mm. mercury in many cases) could be obtained by repeated intravenous injections of procaine. The preparation used by Beckmann is known as "melcaine", and contains procaine hydrochloride dissolved in a vehicle containing honey,—hence, its name. Injections were made twice daily over a period of several weeks. The solution contained as much as 2% procaine and 40% honey in some instances. The lower blood pressure often persisted for as long as several months. Pimps[35] reports similar results from the use of the same preparation in 49 hypertension cases whose ages ranged from 60 to 95 years. No untoward reactions were observed.

Allergic Phenomena

Several investigators have found procaine to be highly effective in the treatment of various allergic phenomena. In some instances the drug was administered orally, and in others intravenously. Applebaum, Abraham and Sinton[36] report a case of serum sickness which responded satisfactorily to intravenous procaine therapy; State and Wangensteen[37] report the successful treatment of delayed serum sickness with procaine; Dressler and Dwork[38] treated a case of penicillin reaction with satisfactory results; and Luddecke[39] reports a variety of allergic phe-

nomena which responded satisfactorily to procaine administered orally, usually in combination with ascorbic acid. Many of Luddecke's patients had received previous unsuccessful treatment with one or another of the antihistaminics.

Miscellaneous

In addition to the disorders mentioned previously, still others have been treated with procaine with varying degrees of success. Lewy[40] found intravenous procaine useful in the treatment of tinnitus aurium in certain cases but not in all. Since tinnitus probably is the result of a variety of causes it is not surprising that a single mode of treatment should prove ineffective in some cases. Jensen[41] observed that the addition of 0.2% procaine to blood prior to transfusion reduced venospasm at the point of injection so that transfusion proceeded more rapidly. Roka and Lajtha[42] used procaine orally for the abolition of pyloric spasm with striking results. A dose of 50 to 100 cc. of 1% solution was found to keep the pylorus open for several hours, it had no side effects, and it could be repeated twice daily for several days. The authors recommend the procedure in cases of functionally spastic pylorus, and as a preparation for surgical intervention in cases of organic pyloric obstruction. Balfour and Wharton[43] obtained relief of cardiospasm in two patients by the administration of 80 mgm. of procaine in solution one-half hour before meals. After the routine use of procaine in this manner for several days these patients found that they could discontinue medication for long periods, although excess worry or other emotional states usually required resumption of procaine for several days.

Procaine Amide

The outstanding success which often has accompanied the use of procaine, either orally or intravenously, in many disorders has prompted the search for other therapeutic agents of similar potentialities but devoid of some of the undesirable side-effects sometimes seen with procaine. Of these the most promising at the present time appears to be procaine amide (pronestyl). Sadove, Wyant, Kretchmer and Gittleson[44] investigated the therapeutic actions of this substance under various conditions. Concerning their observations they state (p. 56): "Advantages of procaine amide over procaine in anesthesia are prolonged action, making continuous administration unnecessary; possibility of oral administration; absence of stimulating effects on the central nervous system; and lower incidence of hypotension. Procaine amide does not appear to interfere significantly with liver and kidney function where these organs are functioning efficiently, and has no significant influence on blood count and sedimentation rate. It has good analgesic properties in control of pruritus and of pain in myositis and fibrositis, but is ineffective in severe pain of advanced malignant disease. Pyloric spasm is well controlled by the drug. Opposing disadvantages are that with our present state of knowledge, administration of procaine amide may not produce the desired effect, may cause results not anticipated, or may be entirely ineffective. In prophylaxis of cardiac arrhythmias determination of the protective dose is difficult and uncertain. We believe, however, that the drug is a useful additional agent for both anesthetist and internist, and that with further pharmacologic investigations and with greater clinical experience, procaine amide will eventually attain a definite place among the therapeutic agents for cardiac arrhythmias."

Similarly, Traut[45] found procaine amide effective as an analgesic in certain types of skeletal pain when given intravenously but not when administered orally. It is less likely to produce hypotension than procaine, and is less toxic in certain other respects as well. In those instances in which procaine amide is effective Traut favors its use instead of that of procaine because of its greater safety. Unfortunately, its field of usefulness appears considerably more restricted than that of procaine.

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MISSED DIAGNOSIS IN CORONARY ACCIDENT*

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Heart disease remains the greatest killer and crippler of our times in this country. Thirty-five per cent of all heart deaths are attributed to coronary disease, and, despite all of our improved methods of diagnosis and treatment, such as unipolar electrocardiography and the now widespread use of the anticoagulants, the death rate continues to rise steadily each year. The increasing toll in the earlier decades is especially distressing. Our medical records, for instance, in the South Pacific areas during the last war, reveal that many young men died during landing operations and, at autopsy, showed findings leading to the coining of a new medical phrase: "Beachhead Coronary". Paul White[1] has compiled statistics showing the increase in the number of coronary deaths in the earlier age groups, and holds that coronary disease is actually on the increase and is more widespread in age limits than ever before.

Many theories are evolved to explain this unfortunate situation: The effect of the artificial chemical fertilization of foods in changing us chemically and rendering us more liable to arteriosclerosis at an earlier age, the relative disappearance of breast feeding, the ingestion of fat and dilesterol, etc. Whatever may be the cause and whatever may be the ultimate solution, we are faced with the urgent problem of reducing the death rate in any way practicable.

We may attack this problem in several ways: (a) By increasing our efforts to educate the public in the signs and symptoms of coronary disease. (b) By increased impetus in research efforts. (c) By more care and concentration by physicians in the early diagnosis and proper care of coronary disease and accident.

The American Heart Association and its affiliates are doing a tremendous job at educating the public. Through literature given to school children to take home, through the establishment of local speakers' bureaus to furnish programs to service clubs, women's clubs, parent-teacher groups, fraternal groups, veterans organizations, etc., we are reaching many people. The public press has cheerfully joined the crusade, as has the motion picture industry, radio and television. My suggestion here is that if all of us as physicians would interest the public at a local and personal level, the problem could be more nearly solved. It is my sad confession to you, that, as a member of the Board of Directors of the Virginia Heart Association, I have gone into urban communities to help to organize local chapters and could not evoke the slightest interest among the local physicians, even among those few limiting their work to cardiology. This is not a healthy condition and must be corrected.

The American Heart Association is very active in supporting research in cardio-vascular problems in this country. This work must be continued and increased in so far as possible.

Finally, we, as physicians, must concentrate our every effort upon the correct and early diagnosis of coronary disease. Today we are placing too much dependence in the early and single electrocardiographic tracing. It is known that 30 to 40% of infarcts may be missed by the electrocardiograph, even with repeated and careful observations. Volumes have recently been written regarding this fact and warning as to the limitation of the test. Smith[2] points out that the value of the electrocardiograph as a diagnostic instrument must be viewed with caution and restraint. This is imperative when the electrocardiogram shows no deviation from normal in cases suspected of coronary heart disease. It is probable that 40 to 50% of cases of angina pectoris will have normal resting electrocardiographs. It is also probable that 10 to 20% of cases of coronary insufficiency will not give findings of diagnostic help with exercise tests. Electrocardiographic patterns simulating healed infarction may be due to causes other than coronary heart disease. The newer techniques have expanded the diagnostic value of electrocardiography, but they have also created new problems of evaluation. Altogether too many patients are needlessly invalided because of erroneous interpretation of tracings.

If time permitted it might be helpful to show specimens of electrocardiographic tracings shortly after a coronary accident where such tracings are well

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within normal limits and where the patient has died within hours or days afterward, with classical autopsy findings of occlusion and myocardical infarction, but I am sure that all of you are now too painfully familiar with such cases in your own experiences.

My late father was a general practitioner for many years, first in rural West Virginia and later in a small town. I well remember that, as a boy, when I was promoted to "chief engineer of horses (and stables)", I went with him on house visits, carried his bag into the house, and often got to see the patient. His only tools were his stethoscope, a crude blood pressure instrument and his five senses: but he carefully questioned and examined the patient at length and, if there was any doubt at all, he kept the patient in bed for several weeks and gave nitroglycerine, edatives, morphine, aminophyllin and, sometimes, digitalis. Strangely enough, most of his cases recovered and returned to a fairly active life. In those days coronary disease was referred to as "spasm of the heart", but the treatment and aftercare were about the same as at present.

A new method of studying the coronary arteries by a special type of injection devised by Schlesinger[3] has thrown considerable light on the diagnostic problem of coronary disease. It has been revealed that many occlusions occur that are not recognized in life and that are not accompanied by the clinical features of an acute attack. It has also been found that thromboses occur without infarction and that infarction can take place without thrombosis. Most hearts from patients with "angina pectoris" have shown two or more occlusions, even as many as ten in rare instances. We must always keep in mind that the electrocardiogram does not reveal *disease* of the coronary arteries, but *changes* in the myocardium.

In recent years the lay press has taken up the task of informing the public on many medical matters and, while, in general, this is a very helpful public service, it also provides a rather doubtful medical education, which is used by some neurotic people and even by medical malingerers to further the authenticity of their alleged symptoms. For this reason it might be well to describe an acute attack of coronary occlusion followed by myocardial infarction to bring out some salient points leading toward a correct clinical diagnosis.

The attack may begin during activity, or when the patient is resting or sleeping. Most frequently the *pain* begins behind the center of the sternum and between the two nipples, and as a rule does not begin with maximum intensity. It may radiate to the upper mid-back, the sides of the neck and to both shoulders and arms, especially the left. In the chest the pain takes on the character of a terrible squeezing or crushing sensation which produces in the patient the feeling of impending death. The pain is in waves of increasing intensity lasting ten or fifteen minutes and then followed by continuous pain until relief is given by narcotics. Many patients will walk about during this stage as if trying to "outrun" the pain. Others will sit on the side of the bed doubled up with the arms and head upon the knees and will not allow themselves to be approached or touched. *Vomiting* is a common early symptom. In the neurotic the vomiting is of the "convenient" type, often of the gagging type only and well controlled to punctuate or end a drastic tirade. In the true coronary vomiting is violent, almost projectile and entirely uncontrollable, often replacing a word being spoken at the time. It resembles the type of vomiting seen in meningitis, brain injury or the pyloric stenosis of infants. *Breathlessness* often occurs early and, in patients where the pain is not marked, may be the chief complaint. The patient may appear to be in *shock*. The skin is cold, clammy and has a peculiar ashen gray color. *Sweating* is characteristic. The patient is anxious and does not speak unless forced to answer a question and almost never screams as does the neurotic. He grunts or groans aloud but seems too far gone and out of breath to do more.

The *blood pressure* at first rises, then usually falls, in some cases, to 100 or less and may reach shock levels. Later slight *fever* and *leukocytosis* often occur.

The *heart sounds* are often muffled or distant and slightly accelerated; in many cases there is initial bradycardia. *Pericardial friction rub,* if properly interpreted, is of great diagnostic value. The *lung bases* usually show some fine rales, especially at the right base.

The *electrocardiograph* now may or may not confirm the diagnosis. I am convinced that once the physician has made a diagnosis in his own mind from the clinical picture alone, he should put the patient

under active treatment including anticoagulants, unless contraindicated.

So far, we have been discussing only one side of a diagnostic problem: that is the side of "under-diagnosis" or failing to make a diagnosis where coronary disease actually exists. Now let us briefly consider the other side—the side of "over-diagnosis", or making a diagnosis of coronary disease or accident where it does not exist. I am sure that Dr. Reno Porter will have something to say on this phase, as it has always been one of his "pet peeves".

Fully 50% of all the heart patients who come to us do not have heart disease at all. There are so many different organs represented in the epigastric area, that many cases are difficult to evaluate properly and correctly. Then, too, a great many physicians are over-cautious in these matters and will prefer to always leave an "escape door" by never coming out with a firm negative diagnosis in any coronary case. In one way, then, or another, many patients get the impression that they are coronary sufferers when they really are not. Once this conviction is allowed to become set in a patient's mind, it may never dislodge. I have seen many competent cardiologists and psychiatrists try vainly to undo the damage done to a patient's mind by one careless word from his own physician.

The term "coronary" to a middle aged man has the same ring of terror as the word "cancer" has to a woman, and once the seed has been sown, we may have a neurotic patient for the rest of his life during which he will no doubt suffer more than if he actually had coronary disease. It is far better not to mention the word "coronary" if it can be avoided, and also to explain that often the diagnosis of coronary disease cannot be made in a single examination. In summary, then, we realize that coronary deaths are on the increase. We must continue to educate the public, especially at the school child level; to increase our research efforts, looking toward a real explanation and a real approach to the nature and prevention of arteriosclerosis, and, finally, greater care in the diagnosis of the patient himself, rather than a too ready acceptance of the reports of his electrocardiograph and laboratory findings.

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Doctors' Building.

Doctors Help Support Medical Schools.

Nearly 37,000 physicians contributed more than $3,150,000 in direct support of medical education last year. This total, however, does not include amounts given for buildings, endowments, scholarships, research and other special purposes. Dr. Donald G. Anderson, secretary of the AMA's Council on Medical Education and Hospitals, announced that reports from 76 of the country's 79 medical schools indicate that more than 29,000 doctors gave $2,258,534 directly for teaching budgets.

The American Medical Education Foundation raised $906,553 of the total from more than 7,000 individual contributors. The AMEF's 1953 fund-raising drive has been launched with a third gift of $500,000 from the AMA. Since its organization two years ago, the Foundation has raised more than two million dollars from the medical profession for distribution "without strings attached" to medical schools.

HIATUS HERNIA AS AN OBSCURE CAUSE OF ANEMIA*

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A coincidence which has occurred frequently enough in our practice to warrant reporting is the combination of anemia and esophageal hiatus hernia. It has been of especial interest to us that the symptoms of anemia are actually what brings some of these patients to the office. Therefore, we are presenting eight cases we have seen, together with their x-rays.

CASE I. Mrs. J. F., a 73 year old moderately obese white female came in for examination prior to pelvic repair surgery. Systems review revealed that she had been having some dizziness and exertional dyspnea. She also stated that she had had some tightness in her abdomen for years, noted more after eating. Physical examination was normal aside from the presence of a very large cystocele. Hemoglobin was 59%, and red blood count 2.8 million; urine was negative. Gastric analysis revealed the presence of free acid. An upper gastro-intestinal series showed an esophageal hiatus hernia of the short esophagus type. Chest and colon films were negative. She was placed on a diet, iron by mouth, and an antispasmodic. Six weeks later, her hemoglobin was 88%, and when last seen one year later was 100%.



Case 1

CASE II. Mr. J. W. C. This 75 year old moderately obese white male was seen at the University of Virginia in 1938 because of "sour stomach" and tarry stools. X-ray there revealed a constriction of the lower esophagus, and esophagoscopy showed a stricture at the hiatus with several areas of ulceration and marked vascularity. He recovered with symptomatic therapy and was well until seen in our office in April of 1949 because of a spontaneous pneumothorax. Hemoglobin at that time was 88%. One month later he rather suddenly became weak, began passing tarry stools, and appeared to be in shock. Hemoglobin was 65%. He was hospitalized, transfused, and recovered without incident. Gastro-



Case 2

*Read before the annual meeting of The Medical Society of Virginia, in Richmond, September 28—October 1, 1952.

intestinal x-ray showed a hiatus hernia. He was placed on the usual therapy regime, and when last seen in 1951 had a hemoglobin of 96%, with neither symptoms nor recurrence of hemorrhage. Note: This man's son, age 49, has a large hiatus hernia which produces postprandial, epigastric, and chest pain; but, as yet, had no acute or occult bleeding.

Case III. Mrs. J. W. DuP., a 62 year old obese white female, presented herself complaining of weakness, fatigue, and exertional dyspnea. She had been receiving liver injections for five months because of



Case 3

anemia but seemed no better. She furthermore stated that she had had considerable heartburn and belching after meals for five to ten years and occasional attacks of severe nocturnal epigastric pain relieved by hypodermics. Stools were at times black. Her hemoglobin was found to be 53% and a sternal marrow examination was consistent with anemia due to chronic blood loss. Upper gastro-intestinal series revealed a large hiatus hernia. She was hospitalized, transfused, and is now maintained on the usual therapy. Four and one-half months later, her hemoglobin is 86% and she has only very occasional mild epigastric discomfort.



Case 4

Case IV. Mrs. C. G. C., a 64 year old obese white female, presented herself in 1942 complaining of heartburn after meals associated with dyspnea which was relieved in a few minutes by sitting up straight. Her hemoglobin was 85% and red blood count 4.82 million. Electrocardiogram and gastro-intestinal x-rays were negative. She was seen again in 1951 with the same complaints and a hemoglobin of 49%. Repeat x-ray revealed a large non-reducing esophageal hiatus hernia. She was hospitalized, transfused and discharged on the usual therapy. Hemoglobin is now 88%.

Case V. Mrs. L. B. W. This 66 year old white moderately obese female began having episodes about eight years ago of choking sensations and inability to swallow coming on while eating. Attacks were relieved spontaneously in ten to thirty minutes. Two or three years ago she was x-rayed and a hiatus hernia of the para-esophageal type found. She came under our care for the treatment of rheumatoid arthritis which developed in the meantime and was doing very well with a hemoglobin static at about 85%,



Case 5

when she was awakened one night by an episode of choking, chest discomfort, and the welling up of moderately large amounts of bright red blood. Hemorrhage ceased spontaneously and the hemoglobin was found to have dropped to about 70%. Since then she has been maintained on routine therapy, and has had two smaller episodes of gross hemorrhage with no appreciable drop in hemoglobin.

CASE VI. Mrs. G. F. This 78 year old moderately obese white female was seen at home because of sub-sternal pain coming on after her evening meal. Electrocardiogram was normal and she was being observed for developments when she had to be hospitalized because of a coincident incarceration of an inguinal hernia. Soon after admission this reduced spontaneously, but anemia (hemoglobin 72% and red blood count 3.9 million) was noted and substernal discomfort persisted. Consequently, an upper gastro-intestinal series was done and a hiatus hernia revealed. This responded to symptomatic treatment and she has done well, is free of symptoms and her hemoglobin remains at around 86%.

CASE VII. E. B. This 36 year old colored female had been having episodes for about five years, lasting twelve to twenty-four hours, and consisting of upper abdominal pain, nausea, and vomiting of questionable coffee ground material. These attacks always subsided spontaneously in a few hours and required little or no medical care. We saw her recently for a similar type of attack and there was no question but what the vomitus contained old blood. Her



Case 6

hemoglobin was 85%, and an upper gastro-intestinal series revealed a small hiatus hernia. She is doing well on therapy. It is interesting to note that this patient is neither old nor obese.



Case 7

CASE VIII. Mr. T. T. A., white male, age 59, was admitted to the Lynchburg General Hospital on June 17, 1952, with anemia and with chills and fever. Hemoglobin was 42% and red blood count



Case 8

2.23 million. The chills and fever were found due to a urinary tract infection. However, a large hiatus hernia was discovered on x-ray which accounts for his anemia.

Discussion

That esophageal hiatus hernia can be a cause for anemia is without question. Ritchey and Winsauer[1], reporting on a survey of the literature up to 1947 plus their own cases at the Indiana University Medical Center, noted 102 cases specifically presented because of this combination. Numerous others occur, of course, and are not reported because of small series, intellectual inertia, etc. The type of anemia varies according to the acuteness of the onset. Where acute hemorrhage with melena and/or hematemesis has occurred, it is of the normochromic normocytic type. In the cases where anemia itself is the presenting sign-symptom complex and its development has been gradual and obscure, it is usually of the hypochromic microcytic type, falling into the so-called group of secondary anemias.

The degree of anemia may be quite variable, depending in part on the acuteness of the blood loss, but also on the compensatory powers of the patient. Some cases have presented themselves with hemoglobin levels as low as 30 to 40% of normal which have insidiously developed. There seems to be no constancy of the relationship between the presence of anemia and the characteristic symptoms that hiatus hernia *may* produce. Many cases first present with no prodrome to an acute upper gastro-intestinal hemorrhage or no indigestional complaints concomitant with the development of the classic picture of anemia.

As to the exact etiology of the anemia, variable theories have been advanced. All are agreed that gross ulceration, either of the lower esophagus or herniated portion of the stomach accounts for some cases, especially those with acute hemorrhage.[1,2,3,4,5,6,7] The British[8] and French generally tend to support the theory that there may be a question of deficient iron absorption. In this country, however, most observers are agreed with the observation of Sahler and Hampton[7] who, on a basis of gastroscopic and postmortem examinations in several patients with hiatus hernia and associated anemia, postulated that the anemia in these non-acute cases is due to the constriction of the herniated stomach by the diaphragm with resultant venous engorgement, edema, submucosal hemorrhage, and shallow ulcerations. The fact remains, however, that in many cases no precise etiologic mechanism can be demonstrated.

Hiatus Hernia

Anatomically, there are three types of esophageal hiatus hernia. The most common, comprising roughly 70% of all cases, is the true hiatal hernia in which both the lower esophagus and the cardiac stomach form a sliding type of hernia, protruding into the thorax with their covering of peritoneum. Second in frequency, accounting for about 10% of cases, is the short esophagus type where the upper stomach is constantly fixed in the thoracic cavity. The third type is the para-esophageal hernia where the lower esophagus stays fixed in position and a portion of the stomach herniates into the posterior mediastinum through the hiatal ring.

The exact etiology in most cases is not known. The short esophagus type is congenital and some are secondary to trauma. However, in the great majority of cases, most authorities have agreed on nothing less vague than that there is a loss of tissue elasticity with age. We do know, though, that such factors as protracted vomiting, chronic cough, and obesity—all of which cause an increase in intra-abdominal pressure—seem to be predisposing factors to the development of these herniae.

As for the incidence of this condition, various observers[2,7], have placed it at anywhere from 2.4 to 9% in routine gastro-intestinal x-rays. They are rare, with the exception of the short esophagus and traumatic types, before 40 years of age. Schatzke[11] noted that he could demonstrate the presence of hiatal

hernia in 70% of patients over 60 years of age, provided he employed greater than normal abdominal pressure during the roentgen examination. These defects are found twice as often in females as in males.

The symptoms, as stated before, vary in their presence and severity. Strangely enough, there seems to be no correlation between the size of the hernia and the degree of symptoms. Presenting complaints may be those due to anemia alone at times. More commonly, though, there are indigestional complaints, the most typical of which is the sudden onset of postprandial epigastric distress with radiation to the back or precordial area and associated with dyspnea. This most often is noted after a heavy meal and especially when lying down. In such cases, simply standing up will often terminate the attack. Other symptoms frequently seen include dysphagia, nausea and vomiting, regurgitation, and palpitation. As noted, attacks frequently come on at night because of the reclining position. Bending, coughing, vomiting, and sneezing may also precipitate attacks.

The diagnosis of hiatal hernia is definitely established by x-ray. They are not always easy to find and, indeed, ofttimes are not found on the first x-ray examination. Hazel & Jensik[9] state that the most consistent position in which to demonstrate their presence is with the patient prone and lying on the right side. Sometimes, simply tilting the patient into Trendelenburg position will betray the defect. If the herniation is small, extra-abdominal pressure will probably be necessary to reveal it. And sometimes the diagnosis can be made, when all other methods have failed, by having the patient assume the position in which attacks are prone to occur.

Complications, in addition to anemia and/or acute hemorrhage which occur in roughly 25% of cases, include occasional paroxysmal auricular tachycardia or fibrillation and also true reflex anginal pain[2] which may be difficult to recognize because of the similarity between it and the pain produced by the hernia.

One other "complication" that should be borne in mind is that patients with the short esophagus type of hernia are especially prone to develop carcinoma of the cardiac stomach. In the event of any unexpected variation of their course, these patients should be re-x-rayed and gastroscoped rather than assuming the hernia is the cause of all the trouble.

Generally, the preferred method of treatment is medical. At times, it is necessary to repair the larger ones surgically but the results are not uniformly good enough, because of the recurrence and inoperability rates, to recommend this type of therapy in the average case[10]. Most can be controlled by a combination of diet, medication, and sensible awareness.

The last named is probably most important of all. Patients are advised against having their big meal at night and are reminded to chew their food thoroughly and to eat slowly. They should never lie down sooner than three hours after eating and at times may find that sleeping in a semi-recumbent position is necessary to prevent herniation.

The diet should be bland and of the convalescent ulcer, low-residue type. This at times poses a problem because it is a generally high caloric type of diet and it is imperative that those patients who have a combination of hiatal hernia and obesity be reduced. In such cases, they should be allowed smaller quantities of food rather than other types. Some antispasmodic before meals and an anti-acid after meals is advisable.

The anemia typically responds dramatically to therapy with iron given orally. We have found that the hemoglobin level rises rapidly to normal, a matter of a few weeks, and maintains that level as long as dosage is continued. Acute hemorrhage sometimes requires transfusion.

SUMMARY

Attention is called to the fact that one cause of obscure anemia may be esophageal hiatus hernia. Eight cases are presented to demonstrate that the anemia may be due to acute hemorrhage or secondary in type and that gastro-intestinal symptoms may or may not be present with this condition. The pathology, etiology, incidence, symptoms, diagnosis, complications and treatment of these herniae are discussed and it is emphasized that the majority of cases can be managed by a simple medical regime, dependent for its success upon the awareness and fullest cooperation of the patient.

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Treatment of Thyroid Disease Aided By Use Of Hormone Drug.

Continuous research with cortisone, one of the hormone drugs, has shown it to be useful in the treatment of subacute nonsuppurative thyroiditis, according to an article in the February 14 J.A.M.A. Subacute nonsuppurative thyroiditis, a relatively rare condition, is an inflammatory disease of the thyroid that results in an enlarged, firm, tender gland.

Three cases in which the preparation was used successfully to treat the disease were reported by Drs. Dwight E. Clark, Thomas S. Nelsen and Robert J. Raiman, Chicago. All are associated with the department of surgery of the University of Chicago.

"A single daily dose of 25 milligrams was given [to each patient] for a total of 12 to 14 days," they stated. "Marked relief of both local and systemic symptoms was apparent within 24 hours. The pain and tenderness had completely disappeared in from four to seven days. Within the first week of therapy, the glands had decreased in size and become softer.

In all cases, the thyroid gland had returned to normal size and consistency within two months. There have been no recurrences.

"Cortisone, which is presented as another mode of therapy, has the advantages of prompt and dramatic relief of symptoms, ease of administration, and, in the dosage levels and duration of treatment found necessary, the absence of any side-reactions. In view of these facts, we feel justified in recommending the use of cortisone as an agent useful in the treatment of subacute nonsuppurative thyroiditis."

Previous treatment of the condition, by drugs, and/or x-ray, generally gave good results, the doctors stated. However, these forms of therapy have such disadvantages as inconvenience of treatment, longer periods of treatment before relief was obtained, a high recurrence rate, and toxic side-effects in some instances.

It was pointed out that the cause of the disease has not been proven. Most of those persons afflicted with it complain of bodily discomfort, weakness and neck pain; many have low grade fever.

RECENT TRENDS IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

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INTRODUCTION

In recent years decided changes have been evident in the therapy of pulmonary tuberculosis. A survey of the older accepted forms of treatment shows that the end-results have often been far from ideal. Complications, frequently introduced by the method of treatment, have added to the gravity of the situation and have been too often encountered. The incidence of relapse even in cases apparently controlled has been considerable. Prolonged treatment and marked physical limitation of the patient have created a definite economic problem.

The purpose of this paper is to present the collapse therapy with surgical and other procedures employed on patients discharged from Blue Ridge Sanatorium from July, 1939, through June, 1952, as shown in Table I. It is particularly our purpose to point out the reasons for the recent trends observed as we believe them to be as a result of our own experience and the reasons as they are expressed by others in the medical literature. This is not intended to express the opinion of all workers, as there continues to be considerable variation in the choice of collapse and surgical procedures by different individuals, but in general it does represent the trend of treatment.

It is evident from Table I that a definite decrease in artificial pneumothorax and the phrenic nerve operation has taken place in recent years and that the use of artificial pneumoperitoneum has gained in popularity. Primary thoracoplasty still enjoys a rather prominent place among permanent collapse measures, but the greatest change is noted in pulmonary resection for tuberculosis. The bronchoscope has been used much more often and bronchoscopic findings are recognized as being indispensable in the selection of therapy and in the complete evaluation of a case.

Streptomycin and para-aminosalicylic acid have passed through the experimental phase and can now be administered intelligently and in a way to obtain maximum results.

TABLE I
COLLAPSE THERAPY WITH SURGICAL AND OTHER PROCEDURES
BLUE RIDGE SANATORIUM

	July '39 June '40	July '48 June '49	July '49 June '50	July '50 June '51	July '51 June '52
No. of Patients Discharged	363	394	362	450	419
Pneumothorax	99	71	49	19	7
Pneumoperitoneum	0	29	65	69	45
Total No. Thoracoplasties	25	89	79	86	84
Total No. Thoracoplasty Operations	57	186	163	164	157
Resections (Total)	0	5	1	19	92
Local (Wedge and Segmental)	0	0	0	2	39
Lobectomy	0	1	0	5	30
Pneumonectomy	0	4	1	12	23
Phrenic Interruptions	34	31	13	6	5
Bronchoscopies	7	99	118	88	179

ARTIFICIAL PNEUMOTHORAX

Artificial pneumothorax, a procedure which not too long ago was so widely used, has been decidedly on the wane in recent years. Mitchell[1] has found an 18.2% incidence of tuberculous empyema in his series of cases ten to twenty years after the induction of pneumothorax but has observed an incidence of tuberculous empyema of only 8.2% where an ex-

*Read before the annual meeting of The Medical Society of Virginia, in Richmond, September 28—October 1, 1952.

cellent collapse was maintained. Oglee and Jones,[2] in reviewing 100 re-expanded cases of artificial pneumothorax, point out that either during the course of treatment or the period of re-expansion 74% developed clear fluid but only 8% cloudy fluid in which tubercle bacilli could be demonstrated on direct smear.

Cutler,[3] reporting on 476 cases of artificial pneumothorax, noted an incidence of 7.7% empyema in 346 cases with a mechanically effective pneumothorax, while 27% empyema occurred in 130 cases with a mechanically ineffective collapse. In 1,389 pneumothoraces Salkin and Cadden[4] found an incidence of 16% tuberculous empyema, this 16% including only a collection of frank pus, all serofibrinous fluid being excluded. An incidence of empyema of 24% was noted by Morrison,[5] who further states that 90% of the empyemata in his series developed in patients who previously had a serous effusion. In 1939 Chapman and Stafford[6] found 15% incidence of empyema as compared to 1% in 1949.

In studying the reactivation of disease after abandonment of pneumothorax on 249 patients whose response to pneumothorax had been entirely satisfactory through collapse and after abandonment, Mitchell[8] reports an incidence of 21.7% reactivation after eighteen years, but 13.6% of these reactivations occurred within three years. Potter[9] states in 126 cases voluntarily re-expanded a relapse occurred in 6, or 4.7%. Involuntary reexpansion in 26 cases showed a relapse in 5, or 19.2%.

Of 312 cases studied by Mitchell[7] only 17% had no discernible contraction of the lung following re-expansion, while 40% showed evidence of residual fluid in significant amounts.

Pinner *et al.*[10] have demonstrated that severe pleural involvement causes not infrequently more profound functional damage to a lung than do advanced parenchymal lesions. According to these investigations, functional impairment of the lung itself from tuberculosis is variable following re-expansion of the lung.

In reviewing 128 cases of unilateral artificial pneumothorax two years after re-expansion, Allen and Kelly[11] report 72, or 56.3%, satisfactory or cured with 22, or 17%, definitely improved. Nine, or 7%, died. Aycock and Keller[12] show satisfactory results in 301, or 57%, of 530 individuals receiving artificial pneumothorax.

Table I shows a progressive decline in the cases of artificial pneumothorax discharged from Blue Ridge Sanatorium from July, 1939, through June, 1952. Of 363 discharges from July, 1939, through June, 1940, there were 99 cases who were receiving artificial pneumothorax as compared to a total of 7 cases in 419 discharges from July, 1951, through June, 1952.

Some of the factors involved in bringing about this decrease in pneumothorax are:

1. The fairly high incidence of pleural effusions and empyemata.

2. The unexpandable lung resulting from atelectasis, pleural changes, pleural fluid, pulmonary fibrosis, or a combination of these factors.

3. The subsequent flare-up of disease following re-expansion.

4. Functional impairment of the lung, which may be variable but is more evident where severe pleural changes are present.

The long-time follow-up of cases receiving artificial pneumothorax would indicate that often the poor selection of cases, the maintaining of unsatisfactory anatomical collapses, and the failure to recognize certain danger signals, such as persistent fluid formation, have all been factors in bringing about the discouraging statistical results which are at times encountered. The result today is that pneumothorax has become unpopular, though the pendulum will probably swing back somewhat but never to the point where it was at one time, and the indications will always be greatly limited. As important as any factor in moving us away from pneumothorax has been the recent demonstrable safety of excisional therapy.

Case Report

Case R.A.: The patient was a sixteen year old white female admitted to Blue Ridge Sanatorium on September 30, 1943. On admission the x-ray revealed a predominantly exudative infiltration in the right upper lobe laterally between the 2d and 3d ribs. Examination of the sputum on culture was positive for acid fast bacilli. Diagnosis: Pulmonary tuberculosis, right lung, minimal, active.

Treatment initially was conservative with bed rest only and improvement was noted until June, 1944, when there was an exacerbation of the disease and

the sputum examinations became positive by the concentration method. Right artificial pneumothorax was instituted on July 18, 1944, and following this changes were noted suggesting possibly some degree of atelectasis of the right upper lobe. Good therapeutic results were obtained from the collapse, though it was not an ideal anatomical one because of a small adhesion into the apex which was not suitable for a pneumonolysis. Repeated examinations of the sputum by the concentration method were negative and the patient was discharged on April 7, 1945.

Right artificial pneumothorax was continued and in 1947 an attempt was made to re-expand this lung but this was only partially successful. Finally, in 1951, the procedure was abandoned and the remaining pleural space filled with fluid. Laminagrams in September 1951 showed no evidence of cavitation but pronounced pleural thickening was evident. The patient was given streptomycin, grams 1.0 with para-aminosalicylic acid 12 grams daily, for a period of 30 days and on November 21, 1951, had a decortication on the right side with a right upper lobectomy, as the upper lobe was found completely atelectatic. The post-operative course was uneventful.

Discussion: This case illustrates the approach to minimal as well as more advanced lesions approximately seven to ten years ago. Two danger signals were presented in the management of this case, which were the progressive atelectasis of the upper lobe, indicating possible bronchial disease, and a persistent adhesion. Therapeutic results were considered more than possible complications.

Our approach to this case today would be a prolonged course of streptomycin, grams 1.0 every third day with para-aminosalicylic acid 12 grams daily, until the reversible disease had responded. After this had been accomplished a preliminary bronchoscopy would have been done, and, if not contraindicated, some form of pulmonary resection, possibly a wedge or segmental, would be performed. Post-operatively the streptomycin and para-aminosalicylic acid would be continued for a period of four to six months.

This case also illustrates one of the serious pleural complications of a long-standing pneumothorax, which required in itself a major surgical procedure even though the parenchymal lesion was a small one.

PHRENIC NERVE OPERATION

Phrenic nerve operation is a procedure which in the past has enjoyed some popularity and has been employed alone as a therapeutic measure and more recently in conjunction with artificial pneumoperitoneum.

Seiler and Murphy,[13] in considering the permanence of the so-called temporary phrenic nerve interruption, have studied 157 cases who received this operation more than one year previously, and their results showed 18.5% with complete paralysis of the diaphragm and 53.5% with partial or complete paralysis. Trimble *et al*[14] have found that permanent interference with the function of the diaphragm is frequently an aftermath of the so-called temporary nerve blocks and that the procedure is not entirely innocuous. They observed even years after temporary operations had been performed that the muscles of the diaphragm continued to show damage. Pinner *et al.*[10] point out that phrenic paralysis with thoracoplasty produces marked functional impairment of the lung.

As will be noted from Table I, since July, 1939, there has been a profound decrease in the number of phrenic nerve operations done on patients discharged from Blue Ridge Sanatorium. From July, 1939, through June, 1940, of 363 discharges 34 patients had phrenic interruptions, whereas, from July, 1951, through June, 1952, only 5 patients in 419 discharges had this operation.

To summarize, the factors playing a part in the decline in the use of phrenic nerve interruption are as follows:

1. The high percentage of persistent permanent or partial paralysis of the diaphragm with the so-called temporary operation. This is most undesirable, particularly if a thoracoplasty is indicated. In the event of development of contralateral disease the indicated therapy may be interfered with.

2. Where complete or partial paralysis persists, bronchial drainage is definitely impaired.

Although there may be rare indications for phrenic nerve crush in conjunction with pneumoperitoneum, we are impressed with its hazards, as stated in the foregoing paragraph; and, moreover, we believe that lower lobe disease, which is the most frequent indication for pneumoperitoneum with added phrenic crush, is usually better treated by resection.

PNEUMOPERITONEUM

In recent years artificial pneumoperitoneum has

gained in popularity. Crenshaw and Gross[15] state that pneumoperitoneum is not a competitive treatment to artificial pneumothorax but the indications for pneumothorax have narrowed so much that pneumoperitoneum is the principal temporary collapse procedure. They do not consider this particularly suitable for minimal cases nor those with predominantly fibrotic lesions. Of 560 cases reported, 246 were considered successfully treated by this procedure alone.

Crow and Whelchel[16] point out the low incidence of complications with artificial pneumoperitoneum. In 546 patients, serious complications were encountered in only 5 (0.9%). Elliott and Blair[17] have found in over 10,000 pneumoperitoneum refills no cases have been discontinued because of complications directly attributable to the procedure.

Mitchell *et al.*,[18] in reviewing the results in 710 cases of pneumoperitoneum show satisfactory results in 57% of the white and 37% of the colored patients with advanced pulmonary tuberculosis not amenable to other accepted forms of collapse therapy. Stein,[19] in an extensive review of the literature, has concluded from his study that 5.6% of the individuals taking pneumoperitoneum will develop complications sufficiently serious to make continuation of therapy impossible.

Table I shows an increase since 1949 in the number of patients discharged from Blue Ridge Sanatorium receiving artificial pneumoperitoneum, though the peak was reached from July, 1950, through June, 1951, when 69 patients out of 450 discharges were receiving this procedure. The decline from July, 1951, through June, 1952, can be accounted for because pneumoperitoneum was discontinued in a number of cases and other more permanent procedures instituted. The increased popularity of pneumoperitoneum is due to the following:

1. It is a reversible procedure.
2. The incidence of serious complications is low.
3. The procedure has definite therapeutic value, particularly in extensive bilateral disease unsuited for other types of collapse therapy.
4. It can be used as a temporary measure in preparing patients for more definitive surgical procedures.

In our experience pneumoperitoneum is frequently not sufficient in itself to properly treat the average case of tuberculosis. It is most effective in light disseminated lesions in the mid and lower lung fields. Cavities rarely close as a result of pneumoperitoneum. Residual cavitary lesions are better treated by resection or thoracoplasty when possible.

Case Report

Case T. D. P.: The patient was a thirty-four year old white male who was admitted to Blue Ridge Sanatorium on October 20, 1950. On admission the x-ray revealed fibro-exudative disease throughout the right lung with cavitation above the anterior 3d rib. There was also a predominantly exudative infiltration fanning out from the root zone in the left lung. Sputum examinations were positive for tubercle bacilli by the direct method.

Artificial pneumoperitoneum was instituted on November 20, 1950, and this was continued until May, 1951. Streptomycin, grams 1.0 daily, was given from October 27 to November 26, 1950. Good clinical and x-ray improvement was obtained and in May and June, 1951, a two-stage (7 rib) thoracoplasty was performed on the right side. His course following operation was uneventful and he was discharged on September 28, 1951. Sputum examinations prior to discharge were repeatedly negative for acid fast bacilli by the concentration method.

The patient was last seen in April, 1952, when he was continuing to progress satisfactorily both symptomatically and from an x-ray standpoint. Sputum examinations at that time by the concentration method were negative for acid fast bacilli.

Discussion: This case illustrates the use of artificial pneumoperitoneum in preparation for some other procedure. With pneumoperitoneum the disease in the left lung improved to the point where the right upper thoracoplasty could be performed. Therapy in this case was satisfactory, though today this individual would have received a prolonged course of streptomycin, grams 1.0 every third day with para-aminosalicylic acid 12 grams daily divided into three doses.

Thoracoplasty

Thoracoplasty has been and still is recognized as a most satisfactory type of permanent collapse in properly selected cases. Guthiel *et al.*[20] report on 254 thoracoplasty cases two to ten years after the operation and state 193 of these had their disease controlled by this procedure; 163 (64.1%) were well

and working. A late reactivation of disease took place in 5 patients (1.9%). The type of disease collapsed did not alter the result, though the poorest results were obtained with the so-called destroyed lung.

Hagn-Meincke,[21] in reporting on 420 thoracoplasty cases, found when the operative material was selected from a group of good "chronics" a recovery of more than 60% is obtained as against 20% to 25% by conservative treatment. His operative mortality was 3%. Douglass,[22] in reviewing the late results of thoracoplasty in 102 cases operated on for parenchymal disease after a five-year follow-up, states 69, or 68.6%, obtained good results. Dieffenbach and Crecca,[23] in analyzing 100 consecutive cases of thoracoplasty, found no operative mortality. 71% became arrested and all of these patients were working or able to work. Thirteen patients died from progression of their disease.

In studying the end-results of thoracoplasty with a control group, Freedlander and Wolpaw[24] report on 85 thoracoplasties and 58 patients who refused operation. The course of most of the control group was unfavorable, 35% becoming worse within one to four years and 26% died. 10% of the group became closed as compared to 57% with thoracoplasty. O'Brien *et al.*,[25] in reporting on 511 patients with thoracoplasty, found, of the 296 patients at home, 224 were working or able to work. Cavity closure with conversion of the sputum after one year was accomplished in 81.65% of the patients. In a study of 56 consecutive cases, Goldman, *et al.*[26] show 39, or 70%, arrested with 4, or 7% dead. Dolley *et al.*[27] evaluated the results from fourteen American clinics in 1,636 cases and concluded that the prognosis of the far advanced case of tuberculosis is much improved with thoracoplasty.

As will be noted in Table I, only 25 thoracoplasties were performed on the 363 patients discharged from Blue Ridge Sanatorium from July, 1939, through June, 1940. Since 1948, however, the number of patients operated on each year has remained fairly constant. At one time this operation was used most often as a last resort when other procedures had failed, and this resulted in many bad risks. As the indications for this procedure have broadened, the results have been much better and the future of the patient has become more secure.

Thoracoplasty is particularly suitable in diffuse upper lobe lesions, peripherally situated for the most part. Cavities, if present, should be small and preferably 2 cm. or less in diameter. More extensive disease is probably better treated by lobectomy. We favor either segmental or wedge resection, when possible, for the more localized lesion in preference to thoracoplasty.

PULMONARY RESECTION

On the basis of the present available data, the evaluation of resection in the treatment of pulmonary tuberculosis is impossible. The earlier operations done were without the use of streptomycin and para-aminosalicylic acid, and it has now become an established fact that adequate pre-operative and post-operative treatment with these drugs is extremely important in obtaining more satisfactory results.

Sive *et al.*,[28] reporting on 84 resections for pulmonary tuberculosis, note that 54 patients had satisfactory results, while 21 had unsatisfactory results and 9 died. The immediate surgical mortality was 2.4%. In a follow-up of the 75 survivals one to four years later, 60 had negative sputums. The poorest results were obtained in the Negro race, in those with large tension cavities, and those resistant to streptomycin.

In considering resections *versus* thoracoplasty in the treatment of pulmonary tuberculosis, Beatty *et al.*[29] had a very high mortality (20.4%) in 93 resections. However, of the 74 patients who survived, a sputum conversion was obtained in 91.9%. These authors explain the high mortality on the basis that most patients coming to operation were poor operative risks and that the resections were done as a last resort. Also, streptomycin was not available for all patients. In an analysis of 426 patients subjected to 437 pulmonary resections, Overholt *et al.*[30] demonstrate a reduction in total post-operative complications where streptomycin was used. Of 336 living patients, 302 (89%) were well with negative sputum. Forsee *et al.*[31] report 2 deaths among 94 patients on whom lobectomy had been performed for pulmonary tuberculosis and an early and late mortality of 4% on 124 patients with various types of resections. Day *et al.*,[32] however, found a fairly high incidence of complications in a series of 202 patients consisting of 98 lobectomies and 104 pneumonectomies. Of this group 13% had broncho-pleural fistulae with empyema while 14% of the lobectomies and 10.5%

of the pneumonectomies had post-operative spreads. An early and late mortality rate of 12.4% was noted.

Sweet,[33] likewise, had rather discouraging results, reporting on a two-year follow-up of 54 patients surviving lobectomy and pneumonectomy. Of this group only 19 remained well, 19 patients dying as a result of progression of disease. The best results were obtained with the pneumonectomies. Moore *et al.*,[34] in reviewing the American literature on pulmonary resections up to 1948, reported rather discouraging results. Murphy and Becker,[35] in studying a group of 100 patients who had resections for tuberculosis and were observed for a three to six year period, report results superior to thoracoplasty. Eighty patients were discharged and capable of carrying on some form of occupation. Eighty-five, or 93.4% of the living patients, had negative sputums. Overholt *et al.*,[36] on the basis of their results feel that primary resection, especially when used early in the course of the disease, is a very effective form of treatment.

Medlar[37] has contributed much towards the justification for removal of the less extensive tuberculous lesions. He states that the smallest detectable lesion in tuberculosis has the same pathologic components present as the disease of larger volume and extent. He further points out that the most dangerous part of the pathology of tuberculosis is the necrotic pneumonic lesion which tends towards sloughing into the connecting bronchus and which causes tuberculosis to be an unpredictable disease with considerable tendency to relapse. Unsatisfactory results in therapy often relate to a failure to eradicate the sluggish, persistent, necrotic pneumonic tuberculous lesion.

In 5 patients with minimal disease, each having been on bed rest for one year plus four months or more of combined streptomycin and P.A.S., Medlar[37] reports that necrotic pneumonic lesions were present in every specimen resected. In other specimens resected and studied, cavity formation that had become lost to view proved to be filled-in cavities, often with a demonstrable patent bronchial communication. Stable roentgenographic shadows of several years' duration were found to represent usually a mixture of scar formation, of unhealed necrotic pneumonic lesions and, in some instances, lobules of non-necrotic pneumonia composed in a large part of epithelioid tubercles and giant cells.

In a study of long-term results of spontaneous closure of tuberculous cavities, Meade[38] reports that cavities which close on bed rest alone are, on the average, 2 cm. or less in size. If closure is to be accomplished, it usually takes place in three to four months and about 30% show evidence of re-opening.

Table I shows there were no resections in 363 patients discharged from Blue Ridge Sanatorium from July, 1939, through June, 1940. Only a very few cases, a total of 6, were among the 756 patients discharged from July, 1948, through June, 1950. Nineteen patients with resections in 450 discharges, however, left during the year beginning July, 1950; whereas, of 419 discharges from July, 1951, through June, 1952, 92 patients had resections for pulmonary tuberculosis.

In a recent analysis of 106 consecutive pulmonary resections for tuberculosis done on patients discharged from Blue Ridge Sanatorium between July, 1950, and June, 1952, 70% of the individuals were discharged as having arrested disease. The tuberculous fatality rate from progressive disease on the 106 cases following operation was 2.8%, with a non-tuberculous fatality rate of 0.9%, making a total of 3.7% from all causes. It is interesting to note that in these 106 patients, tuberculous complications were encountered three times more often where streptomycin was not used.

These 106 cases include the following:

1. Wedge Resections	25
2. Segmental Resections	16
3. Lobectomies	36
4. Pneumonectomies	29

Pulmonary resection in tuberculosis does not, even in slight lesions, necessarily imply the eradication of all disease, but it does represent the removal of the focus which is most likely to cause future difficulty and which would be an important factor in producing a relapse. The approach to satisfactory therapy in any case of pulmonary tuberculosis depends on the proper immediate treatment, and the selection of therapy used should not only insure adequate initial treatment but the measure selected should contribute most towards the future security of the patient. The more recent immediate results in pulmonary resection for tuberculosis are most encouraging, but time will be a definite factor in finally evaluating this approach to the treatment of this disease.

BRONCHOSCOPY

Not too long ago bronchoscopy was used only prior to major surgical procedures and when the patient complained of symptoms or there was evidence of atelectasis on the x-ray or physical signs of bronchial disease were definite.

Today bronchoscopy is frequently employed; indeed, some have advocated routine bronchoscopy in established tuberculosis. It has been surprising, to say the least, to find bronchial disease, sometimes extensive, associated with slight parenchymal lesions with the total absence of symptoms and signs or x-ray findings suggesting bronchial disease.

We have been impressed with the great safety of bronchoscopy in active tuberculosis. We have not observed a single instance of definite spread or exacerbation of disease following a bronchscopy.

Bronchoscopic findings are indispensable in planning the most desirable form of treatment and in avoiding real dangers. For example, pneumoperitoneum and pneumothorax may be hazardous in the presence of significant bronchial disease. The same obviously applies to thoracoplasty and resection.

Because of limited facilities and personnel, we have been unable to carry out routine bronchoscopy; but, nevertheless, we recognize its real importance in sanatorium practice. As is noted in Table I, in 363 discharges from July, 1939, through June, 1940, only 7 bronchoscopies were carried out; whereas, of 419 patients discharged from Blue Ridge Sanatorium from July, 1951, through June, 1952, 179 had bronchoscopies.

STREPTOMYCIN AND PARA-AMINOSALICYLIC ACID

Streptomycin was discovered in 1944, but was not widely used clinically until 1947. Attention immediately centered on a suitable dosage regime which would minimize the emergence of resistant tubercle bacilli in the sputum, and the manifestations of drug toxicity. The 120-day courses consisting of 1.0 or 2.0 grams daily were highly effective therapeutically, but were associated with a very high incidence of undesirable side effects. The shorter courses of 30 grams and 45 grams, 1.0 gram daily, were less effective therapeutically, but undesirable aspects of treatment were lessened.[39,40,41] It was later found that intermittent dosage consisting of 1.0 gram every third day for 120 days was the most ideal in every way.[42]

With the introduction of P.A.S. in 1946[43] combined therapy with intermittent streptomycin and P.A.S. became more popular. Numerous reports have shown that the incidence of emergence of resistant organisms in the sputum is less than 5%. Toxic manifestations are low. Therapeutic effectiveness is at its maximum, as evidenced by a 50% conversion of the sputum to negative by culture, 80% to 90% improvement in x-ray, and 80% to 90% improvement in clinical symptoms.[44,45] D'Esopo[46] observes similar findings in a small number of patients treated continuously from eighteen months to two years.

D'Esopo[46] also found that smears of lesions resected in these patients frequently disclosed bacilli but they could not be cultured and it was impossible to reproduce the typical tuberculous disease in guinea pigs. Medlar[47] observed similar findings in a study of resected lesions from patients who had been treated with combined intermittent streptomycin and P.A.S. for a period of from four months to a year. It is natural to conclude that some profound change has taken place in the biological characteristics of the organism. Are the organisms killed? This is a question which remains to be answered.

The trend today is to continue treatment with streptomycin, 1.0 gram every third day with P.A.S. 12 grams daily, indefinitely if necessary or until definitive treatment has been completed. We feel that whenever drug therapy is indicated, a course should cover a minimum period of eight to twelve months.

It can be said that combined streptomycin and P.A.S., particularly the prolonged courses, have been highly effective in the general treatment of tuberculosis. No other single advance in treatment has contributed as much to the safe application of excisional surgery in particular.

SUMMARY

On the basis of the collapse therapy with surgical and other procedures employed on patients discharged from Blue Ridge Sanatorium from July, 1939, through June, 1952, the recent trends in the treatment of pulmonary tuberculosis have been presented. The most obvious recent trend has been toward pulmonary resection and combined long term administration of streptomycin and P.A.S. A decline in artificial pneumothorax and temporary phrenic operation is definitely evident. Pneumoperitoneum is the tem-

porary collapse procedure of choice in our experience.

An attempt has been made to justify the rationale for the newer methods of treatment, chiefly pulmonary resection, but we are aware of the fact that additional time must elapse for more thorough evaluation.

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NBC to Carry Health Series.

Another series of health education radio programs will be presented this year by the American Medical Association in cooperation with the National Broadcasting System. The series entitled "Medicine, USA—1953" will be broadcast from New York on six successive Saturdays, beginning March 21 and running through April 25, from 8:30 to 9 p.m., EST. Subjects include: problems of aging, arthritis, problems of deafness, anesthesia, rural health, and exceptional children. State and county medical societies are urged to encourage local stations to carry the series.

PR Aid—"Your Doctor" Film.

Tops on the list of 1953 public relations aids for medical societies is the "Your Doctor" film. Local societies are urged to continue its promotion through two channels—(1) encourage commercial theaters to book the film through RKO-Radio Pictures; (2) arrange showings of the 16mm version to all segments of the community.

In most areas, a brief announcement of the availability of "Your Doctor" will stimulate a continuing demand. The 16mm version can be booked in two ways. The AMA has arranged for Modern Talking Picture Service to handle orders throughout the country. Only charge is for postage and insurance. The second booking method is through state and county societies. Individual prints may be secured at $70 per copy from RKO-Radio Pictures and requests filled by society offices. Purchase 16mm prints from Mr. Arthur M. Good, RKO-Radio Pictures, 1270 Avenue of the Americas, New York, N. Y.

CHOLECYSTECTOMY AS EMPLOYED FOR THE TREATMENT OF ACUTE AND CHRONIC CHOLECYSTITIS AND CHOLELITHIASIS*

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The management of acute cholecystitis remains a fairly controversial subject after many years of general interest in the problem and many studies reported in the literature. In general it may be said that there are two schools of thought on the manner of treatment preferred. One group urges early operation as soon as the diagnosis is assured with cholecystectomy the procedure of choice. The other group favors conservative management of the acute case during the early, stormy stage and elective surgery later. A third group may be said to exist who profess to "individualize" each case and may follow the course of action just described according to the duration of the symptoms, the severity of the disease and the age of the patient.

It is not our intention to introduce any new or radical ideas of therapy, but merely to present a series of cases of acute cholecystitis treated at the C. & O. Hospital of Clifton Forge, Va., over the years 1943 to 1951, inclusive. One hundred and fifty-one cases of acute cholecystitis are presented and contrasted with 395 cases of chronic cholecystitis encountered over the same period of time. This report differs from those of the larger in titutions in that all cases have been under the direction of one surgical service, rather than several different services of necessarily varying convictions. Early operation has been uniformly employed for acute cholecystitis and cho'ecystectomy has been performed in all but two cases.

Of the reported cases, 144 were white and 7 colored; 94 were females and 57 males. Ages ranged from 17 to 84 years—(Figure 1). The largest number, forty-five, were between 60 and 69 years of age. There were 2 under 20 years, 9 from 20 to 29 years, 20 from 30 to 39 years, 26 from 40 to 49 years, 23 from 50 to 59 years, 23 from 70 to 79 years and 3 from 80 to 89 years.

The most common symptom has been typical right upper quadrant pain radiating to the right subscapular region, this being reported by 123 patients. Left upper quadrant, lower quadrant or chest pain was termed atypical and was noted in 23 cases. Nausea was a complaint in 113 cases, vomiting in 102 and jaundice in 14. Tenderness in the right upper quadrant was the most common sign and was encountered in 140 instances. Muscle spasm in the right upper quadrant was recorded 59 times and a mass was palpable in the gall bladder region in 54 patients. Jaundice was clinically obvious and recorded only seven times.

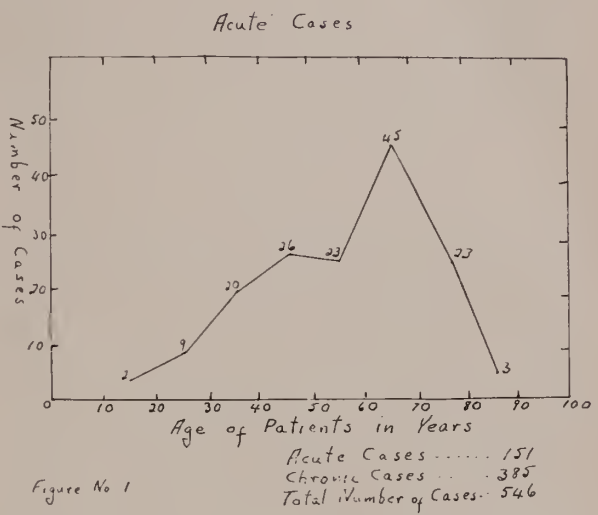


Figure No 1

Fifty-five patients had an admission temperature over 100 degrees, 56 had temperatures ranging from normal to 100 degrees and 40 had normal temperatures. An icterus index above 12 was obtained in 36 instances between 6 and 12 in 82 and less than 6 in 33. Seventy-seven patients had white blood counts exceeding 10,000 and 113 patients had a polymorphonuclear leukocyte count over 75%—(Figure 2).

Radiologically speaking, there were 63 non-functioning gall bladders with stones. Poor function was reported in five cases and one cholecystogram was normal. Sixty-two patients were not X-rayed

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ACUTE CASES

Temperature Range	
Above 100 degrees F	35.8%
98.6 degrees to 100 degrees F	35.9%
Normal	28.3%
White Blood Count	
Above 10,000	50.9%
Below 10,000	49.1%
Polymorphonuclear Leukocytes	
Over 75%	74.8%
Under 75%	25.2%
Pathological Diagnosis	
Acute Cholecystitis with chronic changes	68.2%
Empyema and Gangrene	31.8%

Figure 2.

because of nausea and vomiting or because of clinical certainty of the diagnosis. The admitting officer's clinical impression was acute cholecystitis in 67 instances, gall bladder disease of other type or phase in 67, and other diseases in 17. Among the initial clinical errors, peptic ulcer disease and coronary occlusion were most frequently diagnosed.

The pathologist in each case reported acute cholecystitis, the diagnosis being based upon the accepted features of edema, submucosal hemorrhage, hyperemia, and in the more severe cases leukocytic infiltration, necrosis and gangrene. Empyema and gangrene were reported in 48 cases, and acute cholecystitis with chronic changes was the diagnosis in the remaining 103. No "clinically acute" cases were included without histologic confirmation.

The average duration of acute symptoms on admission was five days. The average hospital day upon which surgery was performed was 4.5. Ochsner in an analysis of 468 cases of acute cholecystitis pointed out that in his judgment the optimum time for surgical intervention was within the first 72 hours or later than 10 days. The case fatality rate in his series operated upon between 4 and 10 days was appreciably greater than those operated early. One hundred of our cases were operated in less than four days. It was also noted that the chronicity of symptoms in Ochsner's cases was correlated with an increase in case morbidity and fatality, as is proven in our series.

Cholecystectomy, usually combined with appendectomy, was performed in 149 cases and choledocholithotomy was added in 20 instances in which common duct stones were also present. Cholecystotomy was employed only two times—1.3%.

In comparing the 151 acute cases with 395 cases of chronic cholecystitis operated during the period of study, the following is noted: the overall surgical mortality in the acute cases was 3.3% and in the chronic cases 1.7%. Morbidity (defined as post-operative temperature over 100 degrees) in acute cases averaged 1.9 days and in the chronic cases also 1.9 days. Post-operative hospital stay averaged 12 days in the acute cases and 10.5 days in the chronic cases—(Figure 3).

ACUTE CASES

Post-Operative Results	
Mortality: acute cases	3.3%
chronic cases	1.7%
Morbidity: acute cases	1.9 days
chronic cases	1.9 days
Hospital Stay Post-Operatively:	
acute cases	12 days
chronic cases	10.5 days

Figure 3.

Surgical complications developed in the acute cases in 7.3%. There were five instances of femoral thrombophlebitis, four of wound dehisence, and one of hemorrhage from the operative site necessitating re-operation. Complications of the chronic cases, occurring in 5.6%, consisted of femoral thrombophlebitis in four, wound dehisence in eight, pneumonia in six and one each for the following: subdiaphragmatic abscess requiring drainage, cerebral thrombosis, acute pancreatitis, and appendiceal stump abscess in a case combined with appendectomy.

Late sequelae in the acute cases consisted of four instances of subsequent choledocholithotomy, an incidence of 2.6%. Following choledocholithotomy these patients have remained well. Among the chronic cases 1.3% were re-operated for common duct stones and in one of these cases an intraperitoneal abscess and benign stricture of the common duct were encountered.

The causes of death in the fatal cases were as follows: in the acute cases there was one "anesthetic" death in the operating room at the completion of surgery and there were three deaths from cerebral embolism, two of which had chronic heart disease and one had femoral thrombophlebitis with a patent foramen ovale. There was also one death from heart failure, bilateral effusion and wound dehisence—(Figure 4). One death among the acute cases fol-

ACUTE CASES

Causes of Death

1. One death in operating room (anesthetic death)
2. Three deaths from cerebral embolism
   a. Two had chronic heart disease
   b. One had femoral thrombophlebitis with patent foramen ovale
3. One death from heart failure, bilateral pleural effusion and wound dehisence (a cholecystostomy case)

Figure 4.

lowed one of the two cholecystostomies. Among the chronic cases there was one death due to each of the following causes: cerebral thrombosis, acute post-operative pancreatitis, uremia and peritonitis following re-exploration of the common duct.

Increased mortality and increased technical difficulty encountered are probably the most common objections offered to early definitive surgery in acute cholecystitis. The mortality of 3.3% in this small series compares with that previously reported for surgical treatment in the acute phase, such as the 2.7% in 697 cases of Heuer and Glenn, the 6.2% in the 127 cases of Root and Priestly, and the 5.3% in the 320 cases of McClure and Fallis. In regard to the mortality of this series it should be noted that 71 patients, or almost 50%, were over 60 years of age, thus being in the group inevitably associated with higher mortality. It should be remarked also that cholecystotomy, which in all reports carries a higher mortality due chiefly to poor risk selection, was employed only twice in this series, one of which terminated fatally. Of interest is the fact that only one of the deaths detailed above was attributable directly to the disease at hand. There is no question that operation is more difficult during the acute phase of cholecystitis due to the intense inflammation, but it was possible to perform cholecystectomy in 149 of the 151 cases of this series and to add choledocholithotomy to 20 cases in which it was indicated. The incidence of early and late complications was slightly higher in the acute cases than in the chronic ones as shown above; but the morbidity was precisely the same and the post-operative hospital stay not significantly different. It is believed that the early resolution of the pathologic process, the prevention of disastrous complications associated with gangrene and rupture, and sparing the patient weeks of suffering and disability justify the employment of early definitive surgery in acute cholecystitis.

Summary

The management of 151 cases of acute cholecystitis observed over the nine year period from 1943 to 1951 inclusive has been discussed, all cases being diagnosed finally by histologic examination. The total number of cases were operated early in the acute phase and all but two had cholecystectomy. To cholecystectomy, choledocholithotomy was added in 20 instances and cholecystotomy was employed only twice. The group of acute cases was contrasted with 395 chronic cases operated during the same period of time. It is our belief that early definitive surgery is the treatment of choice for acute cholecystitis.

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REMARKS ON THE TUBERCULIN TEST AND BCG VACCINE*

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. At first glance it would appear unnecessary to discuss the use of the tuberculin test before this audience. On the other hand, it often pays to review certain subjects which have been known for so long that they are actually in danger of being forgotten and relegated to the past. Dr. John F. Briggs refers to the tuberculin test as "The Forgotten Test". There is a surprisingly large number of physicians who think of the tuberculin test as a procedure used only by epidemiologists and who never consider it as an aid in the routine practice of medicine.

In the practice of medicine the tuberculin test is of great value in the differential diagnosis of tuberculosis. In this connection, in adults, a negative reaction has considerably more significance than a positive one. On the other hand, in children, particularly under the age of two, a positive test has considerably more significance than in adults. In the presence of such conditions as obscure fevers. pulmonary lesions which may or may not resemble "typical" tuberculous lesions, renal infections of uncertain etiology—and so on—a negative tuberculin reaction for all practical purposes rules out tuberculosis as the etiology. Under similar circumstances a positive test has no diagnostic significance unless it is known that the individual has become tuberculin positive more or less coincident with development of symptoms. It has been reported that false negative tests may be obtained during the course of certain acute infections, such as measles and influezna, during the latter part of pregnancy and in some cases of terminal tuberculosis. These reactions are uncommon and repeated testing under these circumstances will almost always give positive reactions if tuberculosis is, or has been, present.

As an epidemiologic tool the tuberculin test offers the only practical means of determining the incidence of tuberculosis in a given group. The incidence of positive reactors in the general population is steadily decreasing. As the incidence of positive reactors falls, the positive test becomes more and more significant.

Finally, we use the tuberculin test to determine candidates for BCG vaccination and, following vaccination, to determine the potency of the vaccine.

Cohen stresses the importance of correctly administering and accurately interpreting the test if it is to be of value.

The Mantoux or intradermal test is the method of choice at least for routine use. The Vollmer patch test is, perhaps, more practical for large scale testing but non-reactors to the patch test should be tested intradermally before they are classed as tuberculin negative. The intradermal test can be performed with either Old Tuberculin (OT) or with PPD. Old Tuberculin is made by boiling, filtering and concentrating a bouillon culture of human tubercle bacilli and is supplied commercially undiluted with accompanying diluent and instructions for preparing proper dilutions. Though there is some disagreement on this subject, it is generally believed that, following dilution, Old Tuberculin does not lose a significant degree of potency over a one month period if kept under refrigeration at 40°F. Standard practice is to test the individual first with 0.01 mgm. of O.T. (0.1 cc. of a 1:10,000 dilution), injecting the material intradermally on the flexor surface of the forearm. Properly done, such an injection will produce a wheal 7-8 mm. in diameter. The test should be read in 48 and 72 hours, a positive reaction consisting of induration and edema of not less than 5 mm. in diameter with or without erythema. If there is no reaction to the first test, a second test is made using 1.0 mgm. O.T. (0.1 cc. of a 1:100 dilution). Reading is carried out as before. It is probably unnecessary to use more than 1.0 mgm. O.T. since certainly the vast majority of people who have or have had tuberculosis will react to 1.0 mgm. or less. However, it is sometimes prudent to employ less than 0.01 mgm. for the first test if an unusual degree of hypersensitivity is suspected. Should the first test with 0.01 mgm. O.T. be doubtful, it is wise to use 0.1 mgm. O.T. as the second test to avoid excessive reaction with possible necrosis and later scar formation.

*Read before the annual meeting of The Medical Society of Virginia, at Richmond, September 28—October 1, 1952.

PPD, a purified protein fraction isolated from culture filtrates of human tubercle bacilli, is supplied commercially in tablet form with diluent and instructions for preparing the proper dilutions. The first strength PPD contains in 0.1 cc. 0.00002 mgm. PPD, and is equivalent to 0.01 mgm. O.T. The second strength contains in 0.1 cc. .005 mgm. PPD and is equivalent to 2.5 mgm. O.T. An intermediate strength is supplied which corresponds to 0.1 mgm. O.T. This material is used in the same way as O.T. PPD is said to be more specific than O.T. and has less tendency to produce severe local reactions. On the other hand, PPD is less stable than O.T. following dilution and should be used immediately.

It is to be emphasized that edema or induration and not erythema is the criterion of a positive test. It should be further emphasized that the tuberculin test does not measure immunity nor does a positive test reflect the degree of tuberculous activity.

Let us now turn to a brief discussion of BCG vaccine. BCG vaccine is prepared from a non-virulent strain of bovine tubercle bacilli originally isolated by Nocard in 1906 from the milk of a tuberculous cow. Two French investigators Calmette and Guérin, working with this bacillus observed that, after successive transplants onto a bile-potato medium, the virulence of the organism had diminished until it was no longer harmful to animals. Further, animals inoculated with this organism were resistant to later inoculation of virulent tubercle bacilli. Numerous animal studies were undertaken and, in 1921, Weill-Halle in Paris began inoculating infants. The same year, Calmette named the organism BCG and in 1924 he declared that the virulence of the organism was permanently fixed and it was harmless for humans. The use of the vaccine then spread widely through eastern Europe and the Scandinavian countries with Heimbeck and Scheel in Norway and Wallgren in Denmark among the principal investigators.

Since that time BCG vaccination has become standard practice in many European countries. It has recently been estimated that more than 50,000,000 people have been vaccinated throughout the world. The United States has been slow to accept BCG and probably rightly so, since it is in the United States that the time tested control measures have shown the best results.

However, the United States Public Health Service and most of the groups for the study of tuberculosis have now approved the use of the vaccine in certain highly exposed groups such as student nurses, medical students and sanatorium personnel.

The theory behind vaccination is based on the generally accepted view that infection with a pathogenic type of tubercle bacillus produces, after an interval, an increase in resistance to subsequent tuberculous infection. It is also accepted that tuberculin allergy normally follows this first infection and appears more or less at the same time as the acquired resistance. It is further admitted that a first or primary infection can, instead of healing, progress to clinical forms of tuberculosis indistinguishable from re-infection tuberculosis. If we can substitute for this virulent and unpredictable primary infection an infection of controlled virulence which is incapable of progression, we may then achieve acquired resistance without danger.

A great mass of literature has accumulated which indicates that the virulence of the BCG cultures is fixed and that it is harmless to man and susceptible animals. Prior to 1930 there was some evidence indicating that the virulence of BCG had spontaneously increased, but since 1930 there has been no evidence put forward to show that it is possible by cultural methods to produce a return of dangerous virulence. It is suspected that prior to 1930 there was a virulent "S" variant in the strain which died out about 1930 and since then the strain has been composed purely of the non-virulent "R" component.

Clinically, results bear this out. Aronson and Aronson stated in 1951 that up to that time there had been no proven case of progressive tuberculosis due to BCG in man or animals. Even prior to 1930 only a few suspicious cases were reported and these were not proven. Since 1930 there have been no suspicious cases reported. When one remembers that over 50,000,000 vaccinations have been carried out this lack of proven or suspicious cases of progressive tuberculosis is almost astounding. It would certainly appear that the vaccine is safe.

As to the effectiveness of BCG vaccine, there have been innumerable reports indicating, almost universally, a significant degree of protection by the vaccine. Irvine, in his monograph, summarized the results of the major studies which indicated a control group and found that the percentage of vaccinated subjects

protected varied from 70-100 per cent with the exception of the studies of Scheel, whose results showed 57 per cent protected, and the studies of Levine and Sackett who found no protection from the vaccine. This latter study is the only recorded statistical investigation that shows no protective value for vaccination. One of the larger and better controlled studies is that of Aronson and Palmer, carried out among North American Indians in the United States and Alaska. The latest report on this study shows that among 1551 vaccinated persons followed for a total of 21,245.5 person years, there were 12 deaths from tuberculosis while among 1457 controls followed for a total of 19,520.5 person years, there were 65 deaths from tuberculosis, giving mortality rates of 0.56 per 1000 person years for the vaccinated group and 3.32 per 1000 person years for the control group. Heimbeck's studies on student nurses at Oslo showed a tuberculous morbidity rate of 141.2 per 1000 observation years in the control group and a rate of 24.1 in the vaccinated group. The tuberculous mortality rates were 14.6 and 2.1 respectively. These reports are representative of many others too numerous to record here.

One of the most valid arguments against the use of BCG vaccine is that by artificially producing tuberculin hypersensitivity, we are depriving the vaccinated individual of one means of determining whether or not he does later develop a natural infection. In other words, vaccination with BCG renders the tuberculin test valueless from the standpoint of differential diagnosis and epidemiology. This argument is sound, particularly as regards the general population. However, the groups for which the vaccine is recommended have much less likelihood of remaining tuberculin negative than the general population. Our own studies among student nurses at the Medical College of Virginia Hospital show that 85 per cent or more of the nurses finishing training have a positive tuberculin reaction. This argument then loses its validity for these groups. If these individuals are fairly certain to develop a natural primary infection during their training, it certainly seems reasonable to try to substitute for this natural infection a controlled, benign infection.

Another argument against the use of BCG stems from the feeling of some investigators that it is only re-infection tuberculosis which produces clinical disease and that by producing a tuberculous focus in the body, even though it is artificial and in itself benign, we are producing the hypersensitivity necessary for the introduction of the re-infection disease. This concept is not shared by all, but, even if it were, the same arguments would apply as stated above. It must be remembered that we are still far short of the goal of being able to satisfactorily isolate all infection cases of tuberculosis. Indeed, if such were the case there would be no need for a vaccine.

The technic of vaccination should be briefly commented upon. In the past the vaccine was originally given orally. A few cases of cervical adenitis developed but the chief reason for discarding this method was the slowness with which tuberculin allergy and, presumably, acquired resistance appeared. Subcutaneous injection was then tried but in many cases local necrosis, draining sinuses and regional adenitis appeared. The methods now in general use are the multiple puncture or sacrification techniques and with these methods local reactions are practically nil. In our own small series we have noted no significant local reactions whatever. Following vaccination small papules develop at the site of the punctures but these, in our experience, are often barely visible two months later. The tuberculin test becomes positive in over 90 per cent of cases within six to eight weeks after vaccination and remains positive indefinitely. Aronson's study on the North American Indian showed a persistence of hypersensitivity among the vaccinated ranging from 93.3% one year following vaccination to 90.2% eleven years later. Among the controls hypersensitivity increased from 12.7% one year after the study began to 41.7% after eleven years.

It seems justified to conclude, as Dr. Johannes Holm expresses it, that BCG vaccination "protects almost completely against the tuberculous primary infection and it also affords considerable protection against genuine tuberculosis of the various organs—in particular against pthisis."

SUMMARY AND CONCLUSIONS

We have attempted to review briefly the use of the tuberculin test with particular reference to its use as a standard procedure in the practice of medicine. We have also presented briefly some of the arguments for and against the use of BCG vaccine. It is our conclusion that BCG vaccine has a definite place

among our weapons in the fight against tuberculosis though its use should be restricted to groups whose occupational hazard as regards tuberculosis is high.

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Name AMA Delegates to World Medical Meetings.

AMA representatives to two important world medical meetings—the World Medical Association and the First World Conference on Medical Education—have been announced by the Board of Trustees.

Delegates, alternates and observers to the World Medical Association meeting to be held August 31-September 4, 1953, at The Hague, The Netherlands, include: Drs. Gunnar Gundersen, E.S. Hamilton, Dwight H. Murray, F. J. L. Blasingame, George F. Lull and Austin Smith.

The following representatives will attend the First World Conference on Medical Education August 24-29, 1953, in London: Drs. Donald G. Anderson, Herman Weiskotten, Victor Johnson, E. S. Hamilton and Austin Smith.

Ralph P. Creer, secretary of the Committee on Medical Motion Pictures has been invited to speak on "Motion Pictures in Medical Education" at the London conference. His paper will include a discussion of the value of motion pictures in medical teaching and the international exchange of medical films.

New Books.

Below are listed some of the newer additions to the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be borrowed under usual library rules.

American Academy of Orthopedic Surgeons—Instructional course lectures. Vol. 9, 1952.

American Rheumatism Association—Rheumatic diseases. 1952.

Ayre—Cancer cytology of the uterus. 1951.

Brain—Diseases of the nervous system. 4th ed., 1951.

DePalma—Surgery of the shoulder. 1950.

Herrmann—Diseases of the heart and arteries. 4th ed., 1952.

Hildreth & Hildreth—The low fat diet cook book. 1952.

Holmes—Introduction to clinical neurology. 2d ed., 1952.

Josiah Macy Foundation—Liver injury. 1953.

Josiah Macy Foundation—Problems of infancy and childhood. 1953.

Lull & Kimbrough, eds.—Clinical obstetrics. 1953.

Moseley—Textbook of surgery. 1952.

Ropes & Bauer—Synovial fluid changes in joint disease. 1953.

Tullis, ed.—Blood cells and plasma proteins. 1953.

Waksman—The literature on streptomycin—1944-1952. 1952.

Watson-Jones—Fractures and joint injuries. Vol. 1, 4th ed., 1952.

DISSEMINATED COCCIDIOIDOMYCOSIS— REPORT OF A CASE

EDMUND M. CHITWOOD, JR., M.D.,*
Louisville, Kentucky

Generalized coccidioidomycosis, first reported in this country by Rixford in 1894[1], caused only two reported deaths in Virginia from 1949 to 1951. Many servicemen are known to have contracted "benign" primary infection, while in camps in Texas, Arizona, and California. They run the risk of developing a severe, disseminated type of infection[3]. The true nature of this disease is rarely recognized clinically in such sporadic infections. The following case is being reported because it illustrates such a course.

CASE REPORT

A 25 year old white male was admitted on 3-4-52 complaining of increasing lethargy and difficulty of concentration of 30 days' duration. The patient was born in North Carolina and spent his early childhood there. He was in Texas for 18 months in 1948 and 1949 while in college. Approximately one month prior to admission he noted increasing lethargy, inability to do his work, and general disinterest. His friends stated that he had become grossly untidy and had little interest in his personal habits. Detailed information could not be elicited because of his inability to concentrate; but he complained vaguely of blurring vision and mild frontal headaches. Initial examination revealed a poorly nourished, chronically ill white male with no acute distress, completely disinterested in his surroundings. The pulse, temperature, respiration, and blood pressure were normal. He had a moderately stiff neck and there was obvious clumsiness in executing fine movements, but this was attributed to his limited attention span. The remainder of the examination was not remarkable. Examination of blood and urine revealed no abnormalities. A Kahn test on his blood serum was negative. X-ray pictures of the chest and skull were negative. A lumbar puncture was done shortly after admission and the initial pressure was 340 mm. water with a closing pressure of 260 mm. water. The spinal fluid contained 443 white blood cells per cubic millimeter with 67 per cent polys; and 556 mgm. chloride, 25 mgm. sugar and 268 mgm. protein per 100 milliliters. Examination of additional specimens of spinal fluid generally yielded similar results. Smears of the spinal fluid, examined at this hospital, were reported negative for acid fast bacilli; however, aliquot portions of spinal fluid were reported positive for "atypical acid fast forms" at another hospital. A culture of the sputum, taken shortly after admission, was reported positive for acid fast bacteria. No other sputa were reported positive, either by smear or culture. A diagnosis of tuberculous meningitis was made and the patient was treated with streptomycin intramuscularly and intrathecally. In addition, he was treated with streptokinase and PAS without improvement. He died 72 days after admission, with terminal evidence of pyelonephritis.

AUTOPSY

The pertinent findings were:

Severe congestion and edema of the lungs. A calcified mass, 2 cm. in diameter, was found in the left apex. Several minute grey white nodules could be seen shining through the capsule of the spleen, and many small white grey nodules, 1 mm. in diameter, were noted in the substance of the spleen. Irregular areas of yellowish discoloration, averaging 0.3 cm. in diameter, were noted beneath the capsule of the liver. Upon transection, these had the consistency and appearance of granulomatous foci with softening. The pelvis of the right kidney was dilated and contained necrotic material. The mucosa of the pelvis was congested and hemorrhagic. In addition, many minute abscesses were found in both poles of the left kidney. The leptomeninges and the base of the brain were markedly congested and infiltrated by a thick, greyish white, granular, gelatinous exudate. This involved the medial surface of the pons, cerebellum, midbrain, and the pituitary, and extended over the uvula and completely obliterated the cerebropontine angle. Horizontal sectioning revealed slight edema and congestion of the white matter. The ventricles were markedly dilated and congested. (Figure No. 1). Anatomical diagnoses: (1) Tuberculous meningitis; (2) Terminal pyelonephritis.

*From the Laboratory Service, Veterans Administration Hospital, Louisville, Kentucky, and the Department of Pathology, School of Medicine, University of Louisville, Louisville, Kentucky.

Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are a result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

Microscopy

Examination of sections from the encapsulated area of caseation within the left lung revealed marked inflammatory reaction and acid fast bacilli in sections stained by the Ziehl-Nielson technique. The spleen and liver contain a few granulomas. (Figure No. 2). The meninges also contain granulomatous foci. Within the granulation tissue are many spherules with endosporulation, similar to those of the liver.



Fig. 1. The leptomeninges at the base of the brain are covered by a thick, gelatinous exudate.

The clinical diagnosis of active pyelonephritis is substantiated by histological examination of sections of the kidneys. The final diagnoses: (1) Disseminated coccidioidomycosis; (2) Terminal pyelonephritis; (3) Pulmonary tuberculosis.

Comment

The microscopic findings in the lung explain why acid fast bacteria were found in the sputum on one occasion. However, no portal of entry could be demonstrated for the coccidioidomycosis. Inoculation of a guinea pig with spinal fluid, removed ante mortem, resulted in a primary focus at the site of injection. The guinea pig was sacrificed and culture of the material removed from the site of injection revealed a white fluffy fungus which was not investigated further, due to the extreme danger of opening such cultures.

Summary

A fatal case of coccidioidomycosis is reported.

The case was complicated by concomitant pulmonary tuberculosis which served to obscure the diagnosis.

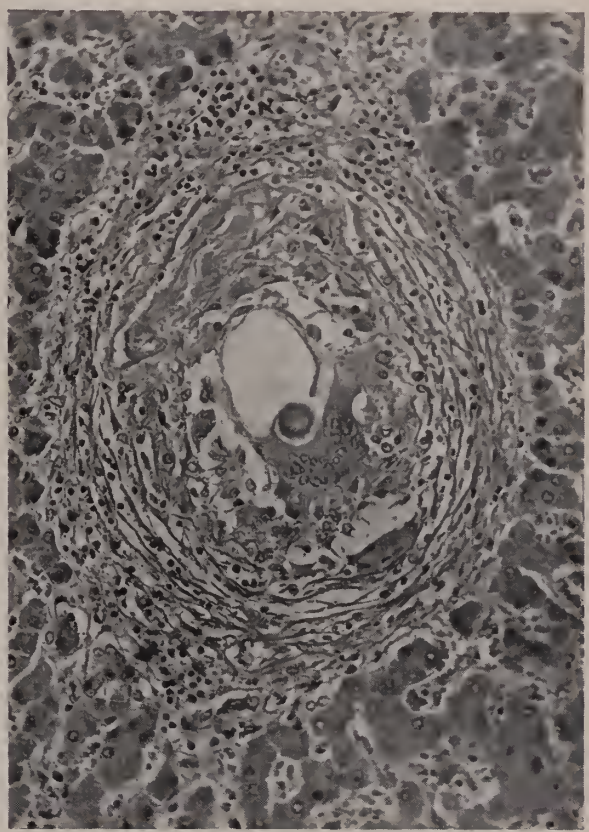


Fig. 2. Coccidioidogranuloma of the liver. In the center of the granuloma is a giant cell with a spherule containing endospores.

Attention is again drawn to the fact that persons exposed to infection with coccidioidomycosis may develop fatal dissemination many years after such exposures.

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Virginia's Newest Program: Veterinary Public Health.

The most recent member of the public health team at the state level is a public health trained veterinarian. It will be in his province to investigate, measure and control those diseases of lower animals which directly or indirectly affect the health of man.

Although the practice of veterinary medicine has long been an important bulwark in the control of many of man's communicable diseases, it is only fairly recently that health departments have organized long needed programs in this broad field. The term "veterinary public health," although relatively new, has already gained wide acceptance. The World Health Organization defines it as "all the community efforts influencing and influenced by the veterinary medical arts and sciences applied to the prevention of disease, protection of life and promotion of the well being and efficiency of man."

Besides Virginia, there are now 20 other states in the country that have full time public health veterinarians on their health department staffs. The duties of the state public health veterinarian may be broken down into the following broad categories:

1. Development of programs to control and eradicate animal diseases transmissible to man.
2. Development of activities for the inspection and sanitary production of all foods of animal origin.
3. Consultation with other operational units in the health department, with voluntary agencies, local health units and the veterinary service of the agricultural department.
4. Engagement in research activities, field and laboratory investigational projects in diagnostic methodology and control procedures, such as immunization experiments.

There are over 80 diseases of animals communicable to man. Fortunately not all of them are of major public health significance in the United States today. Of those diseases which concern us in the realm of veterinary public health the following may be cited as examples: *Bacterial diseases*—Leptospirosis, salmonellosis, brucellosis, anthrax; *Mycotic diseases*—Histoplasmosis, coccidioidomycosis, ringworm; *Parasitic diseases*—Creeping eruption (cutaneous ancylostomiosis), hydatidosis and beef tapeworm; *Viral diseases*—psitticosis, encephalitis, rabies; *Rickettsial disease*—Q fever. Several of the animal diseases of importance to human health are of equal importance to livestock economy. In dealing with these, the public health veterinarian works with the veterinary service of the agriculture department in a coordinated, double-barrelled attack on the problem diseases. Outstanding examples of these are brucellosis, leptospirosis and bovine tuberculosis.

As in the control of all communicable diseases, the practicing physician is the key person in reporting the disease to the epidemiologist. If there is a question of an animal reservoir, he is assisted by the public health veterinarian, who helps locate the origin of the infection and institutes control barriers to prevent further transmission.

By establishing state minimum standards and offering consultative services, the public health veterinarian will be in a position to assist local health jurisdictions to improve the hygienic and sanitary producton of disease—free meat, poultry and dairy products.

By far the greatest single veterinary public health problem in Virginia today is the current outbreak of rabies. The disease at present is discretely distributed in the state in three principal areas, north, southwest and the tidewater area, including the eastern shore. The State Health Department's veterinary program is concentrating the bulk of its efforts at present in assisting the three affected areas in organizing sound rabies control programs.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	March 1953	March 1952	Jan.-March 1953	Jan.-March 1952
Brucellosis	6	1	15	4
Diarrhea & Dysentery	125	121	333	450
Diphtheria	15	5	44	27
Hepatitis	142	76	278	212
Measles	749	3288	1494	6115
Meningitis (Meningococcic)	27	22	87	53
Poliomyelitis	2	3	7	11
Rocky Mt. Spotted Fever	0	0	0	2
Scarlet Fever	112	88	344	264
Tularemia	3	1	13	22
Typhoid & Paratyphoid	4	5	12	14
Rabies in animals	56	73	152	169

MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department Mental Hygiene and Hosiptals

What of the Aged in the Mental Hospitals?*

One of the wonderful things in life is to "grow old gracefully". It is pathetic, however, that many do not fit into this category because of the mental breakdowns that come in the later years of life. Most of these enter a mental hospital some time during the course of their illness.

Prevention and treatment of physical diseases has advanced at such a rapid pace during the past 50 years that the life expectancy in 1950 is 68 years in contrast to 49.2 years in 1900.[1] The tragic situation is that the prevention and treatment of mental illnesses has not any where near met the advance in physical medicine.

We are certainly faced with a serious situation. This problem cannot be solved by the mental hospitals alone, but must be attacked by the combined efforts of the medical profession, governmental authorities and the public. As shown in publications within the past few years, the medical profession and governmental authorities have begun studying the problem but as yet there does not seem to be a definite solution in sight.

In the four mental hospitals in Virginia, we have approximately a third of our resident patient population in the 60 years of age and older group. (The age of 60, for the beginning of this group, is used because at about this age the mental ills of older people begin.) At the present time, approximately a third of the first admissions are 60 years of age and over.

Population studies have been made on a national basis estimating the 65 years of age and over group will increase from about 12.3 millions in 1950 to 20.8 millions in 1975. This in an increase in this group of approximately 69% in 25 years. Projecting this into those of this group that might be expected to populate the mental hospitals, we reach the astounding situation that 50% or better of the hospital populations would be over 65 years of age in 1975. It is obvious, therefore, that some special planning must be done for this group of patients and that this planning must not be done at the expense of the care and treatment of other patients who have a greater expectancy of leaving the hospital and resuming an active life in the communities.

The charts included in this article give a picture of the increase of both patients resident in hospital and first admissions of those 60 years of age and over for the statistical period of 1940 through 1952. It can be seen that the increase in the past 12 years can be expected to be a greater increase in the next 25 years.

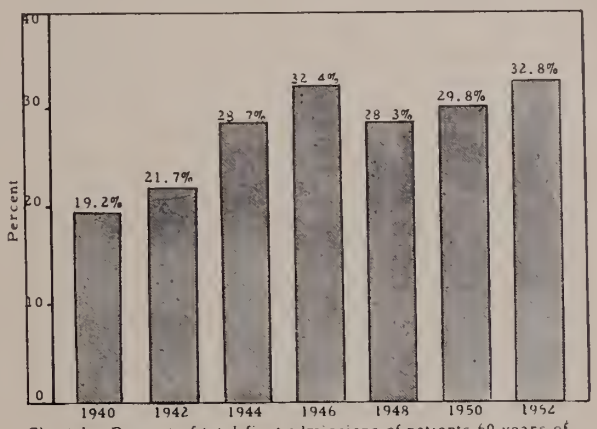


Chart 1. Percent of total first admissions of patients 60 years of age and over admitted to state hospitals 1940 - 1952 by alternate years.

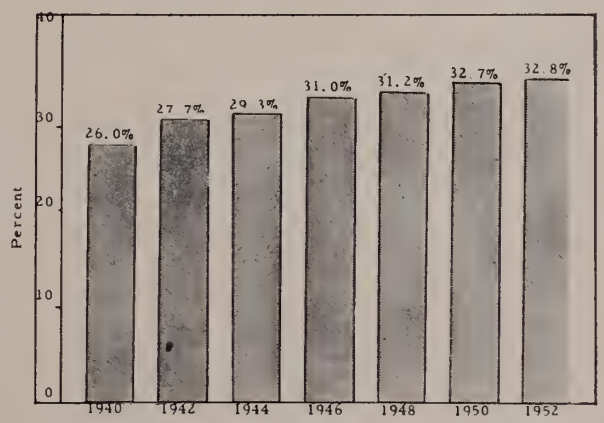


Chart 2. Percent of total patients in resident in state hospitals 60 years of age and over for 1940 - 1952 by alternate years.

The mental disorders of this age group are usually a psychosis caused by cerebral arteriosclerosis or senility. The diagnosis of senility, as such, has been decreasing while that classed as cerebral arteriosclerosis has increased. In many cases the two diseases are so interrelated that the classification becomes difficult. Therefore, quite often they are classed as a group for statistical purposes.

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

The expectancy of discharge in this group is only about 20 for every 100 admissions, therefore, the majority of these die in the hospitals after an average hospital residence of 2½ years. In 1950 the number of deaths of the senile-arteriosclerotic group was 55.2% of the total deaths. This is representative of this situation at the present time, although in view of other factors it may be expected to increase. The discharges of this group are only about 6% of the total discharges.

As many of the admissions over 60 years of age have a short period of life, they do not remain in the hospitals very long before their death. With this in mind, a majority of those over 60 years of age still resident have grown old in the hospitals.

A pilot study has just been completed of the length of time patients that were in hospital June 30, 1952 had been on the records. Twenty-three percent of the total had been in the hospitals 20 years or longer and slightly less than 1% of these were diagnosed as senile-arteriosclerotic. Of the total hospital population, 64.0% had been patients for over 5 years, but only 5.2% of these were diagnosed as senile-arteriosclerotic. Of the total in hospital on June 30, 1952, 11.4% were in the senile-arteriosclerotic diagnostic group. Those in residence over 60 years of age were 32.8%. Therefore, the remaining 21% of those over 60 years of age had other diagnoses and for the most part grew old in the hospital. This warrants a plea for more treatment for these during the early part of their illness.

It appears that concentration on the intensive treatment of other types of mental disorders would lead to their release from the hospitals thus relieving a large part of this build up of older patients.

Present facilities of the mental hospitals have not been constructed or planned for the care of elderly patients. The situation presents itself as a problem for very definite planning and programs. Several ideas for this planning have been suggested, among which is a separate hospital for the senile-arteriosclerotic group, special buildings at existing hospitals, or a small cottage system attached to existing hospitals.

The prevention of mental illness in older people or the building up of mental health, as has been done with the physical health, is of great importance. Young people must be made aware that eventually they can expect to grow old. Plans must be made for activity of their minds in later life, because an inactive mind loses its usefulness in the same manner that an arm not used loses its strength.

In conclusion we quote the final paragraph of an article by Dr. Edward J. Stieglitz: "Finally it is most important to have a purpose greater than mere survival. Those self-centered individuals who are more important to themselves than anything that they are doing, shrink with the years in their personalities. Those who are doing something which, to them, is more important than they consider themselves to be, continue to grow through out the life span. A purpose greater than self is probably the greatest force with which we have to insure mental health until the end."[2]

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Newscopes.

A check for $5,000 was forwarded to the Netherlands medical association for *flood relief*. . . . The AMA's Committee on Blood has joined with the American Red Cross in forming a joint *fact-finding committee* to arbitrate differences between community blood banks and area Red Cross offices. This committee will make recommendations if invited to do so by either local medical societies or Red Cross chapters. . . . *Liaison committee* composed of Drs. James R. McVay, chairman, David B. Allman and Gunnar Gundersen has been appointed by the Board of Trustees to work with the Association of State and Territorial Health Officers. . . .

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

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Woman's Auxiliary to the American Medical Association

Thirtieth Annual Meeting New York, N.Y., June 1-5, 1953 Hotel Statler

Mrs. William J. Lavelle, *Chairman*
Mrs. Adolph H. Emerson, *Co-Chairman*
Committee on Arrangements

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicians attending the convention of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Statler. Tickets will be available at the registration desk only. Please register early and obtain your badge and program.

Registration Hours

Sunday	12:00 M to 4:00 P.M.
Monday	9:00 A.M. to 4:00 P.M.
Tuesday	9:00 A.M. to 4:00 P.M.
Wednesday	9:00 A.M. to 4:00 P.M.
Thursday	9:00 A.M. to 12:00 M

News from State Auxiliaries.

Alexandria

The February meeting of the Alexandria Auxiliary was a luncheon meeting, held at Hogate's Arlington House. Mrs. Viola Japhet spoke on The Visiting Nurse Service of Alexandria. In March, Mrs. John Hoyle was hostess at her home on Woodland Terrace. Mrs. Robert Anderson was co-hostess.

Business at The Shoe Center is booming. Fifty pairs of repaired shoes were distributed to needy children, referred by local welfare agencies, in three weeks time. The demand is greater than the supply, so any children's shoes, sizes 11½ to 7½, will be welcomed at The Center—that's 510 King Street. Mrs. Milton Stein, Chairman, reports that progress is being made in the building of shelves, painting and organizing The Center.

Those red carnation boutonnieres our doctors were seen wearing on March 30, Doctors' Day, were given with the compliments of the Auxiliary. Members were also responsible for Red Cross collections among our nearly one hundred physicians this year.

Arlington

The Arlington Auxiliary sponsored a luncheon and fashion show at the Washington Golf and Country Club on March the 10th. All of the proceeds from this will go to the Arlington Hospital. A very large crowd attended the show which was put on by Lillian Bause Fashions of Arlington.

New Exhibit Shows How Medical Dollars Are Spent.

A new exhibit showing how the medical care dollar is distributed among physicians, hospitals, druggists, dentists and others is now available through the AMA's Bureau of Exhibits. "Where Your Medical Dollar Goes" features three-dimensional figures on a revolving pedestal. Available to state and county medical societies, this exhibit may be shown either in conjunction with such exhibits as "Health Today" and "Your Medical Care" or by itself.

European MD Contributes to AMEF.

A European-educated physician now residing in Madera, California, believes that physicians should support American medical schools. Although he owes no allegiance to any school in this country, Dr. Thomas Klein sent in a donation to the American Medical Education Foundation. His action sets an example for graduates of American medical colleges. In less than three months of this year, the Foundation has received in excess of $657,000 from more than 7,000 contributors towards its 1953 goal of two million dollars.

BOOKS

Modern Treatment. A Guide for General Practice. By Fifty-three authors. Edited by AUSTIN SMITH, M.D., Editor of the Journal of the American Medical Association; And PAUL L. WERMER, M.D., Secretary, Committee on Research, American Medical Association. Paul B. Hoeber, Inc., New York. 1953. xv-1146 pages. Cloth. Price $20.00.

Pheochromocytoma and the General Practitioner. By JOSEPH L. DECOURCY, M.D., and CORNELIUS B. DECOURCY, M.D., DeCourcy Clinic, Cincinnati, Ohio. 1952. Cloth.

Progress In Fundamental Medicine. By PAUL CANNON, University of Chicago; J. A. CUNNINGHAM, University of Alabama; PAUL KLEMPERER, Mt. Sinai Hospital, New York; ALBERT KLIGMAN, University of Pennsylvania; G. K. MALLORY, The Mallory Institute; TRACY B. MALLORY (deceased), The Massachusetts General Hospital; J. C. PATERSON, University of Western Ontario; L. B. STODDARD, University of Kansas; W. KENNETH CUYLER, Duke University; J. P. WYATT, St. Louis University. Edited by J. F. A. McMANUS, University of Virginia. Lea & Febiger, Philadelphia, 1952. 316 pages, with 74 illustrations and 2 colored plates. Cloth. Price $9.00

It would seem to this reviewer that the purpose of this volume, to provide concise and authoritative discussions of fundamental problems in medicine, has been achieved very well. The authors of individual sections are well-qualified to provide perspective, a comprehensive survey and proper emphasis in their particular subjects. While much of the book will be of special interest to the pathologist, there are many aspects which have direct clinical implications of interest to the general practitioner, internist, surgeon, gynecologist and industrial physician.

Each author has included an extensive bibliography which enhances the value of the summations immensely. They may be regarded as key references which stand out from the innumerable articles appearing in numerous journals. There has been admirable success in keeping articles of such a summary and review nature from being dry and tedious; they are mostly easily readable and enjoyable.

The need for "bringing up to date" through review of broad problems by qualified experts seems very definite. It is believed this book will fill that need, and it is hoped that additional medical subjects of a fundamental nature will be treated similarly in future volumes of this type. H.F.

Cardiac Therapy. By HAROLD J. STEWART, M.D., Associate Professor of Medicine. Cornell University Medical College, New York; Attending Physician, New York Hospital; etc. Paul B. Hoeber, Inc., New York. 1952. x-622 pages. Illustrated. Cloth. Price $10.00.

This reviewer found this to be a well written, clearly defined approach to the therapy of cardiovascular disease. There is some repetition which serves however to emphasize important factors in cardiac disease and is not objectionable. Throughout the pages of the book the author carries on a feud with the Harry Gold school of digitoxin usage without once mentioning that worthy's name. However, his insistence that 1.8 milligrams of digitoxin is the only valid digitalizing dose recurs in almost every situation where it is pertinent. The first five chapters can be read with equal value by both the novice and the experienced cardiologist. They are an extremely lucid presentation of the subjects of congestive heart failure, mercurial diuretics, digitalis, anticoagulant drugs and irregularities of the heart. The chapter entitled, "What To Tell Patients About Their Heart Disease" is extremely valuable to anyone treating cardiac disease.

On the whole, this book is adequate and well written and would make a welcome addition to the library of most practitioners.

L.D.P.

Therapeutic Meal Plans. A New Diet Manual. Prepared by the Department of Dietetics and Nutrition, University of Kansas School of Medicine. Edited by Virginia Toews, Berdena Rosenow, and Ruth Gordon, Dietitians. University of Kansas Press, Lawrence, Kansas. 1952. 111 pages. Cloth. Price $3.00.

This manual, containing a wealth of compact information on therapeutic diets, should be of special benefit to dietitions and nutritionists as well as to the busy practitioner.

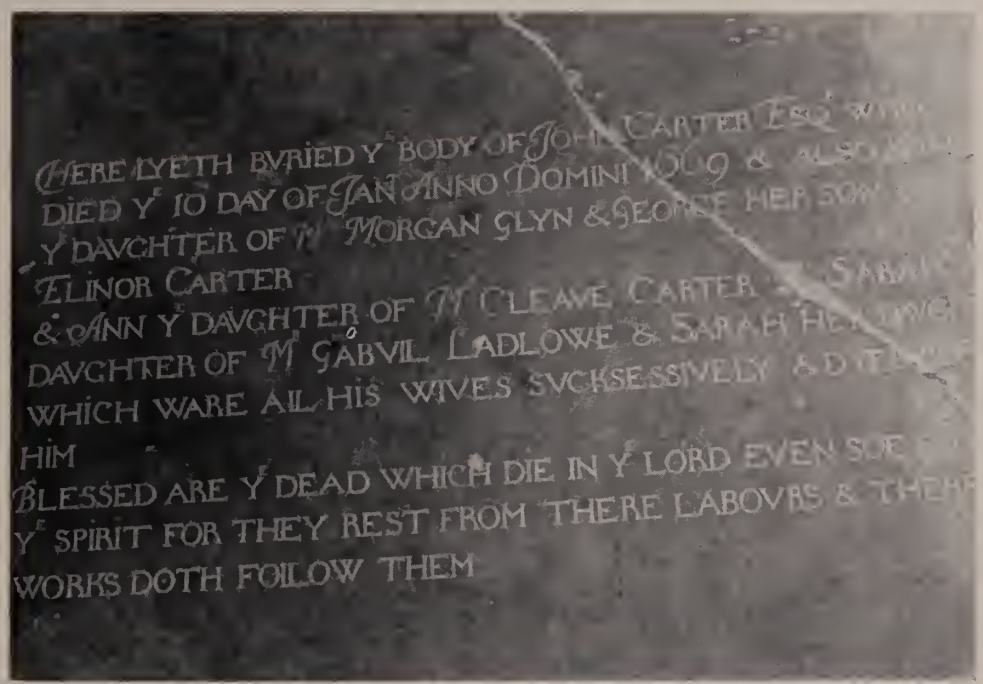
Routine hospital diets are listed, following by therapeutic diets divided into eleven groups according to the way in which they vary from the normal, (for example, caloric variations, salt variations, etc.). For each diet there is given (1) approximate composition for protein, fat, calories, minerals and vitamins; (2) necessary foods; (3) additional foods; (4) special rules; (5) foods to omit, and (6) suggested meals. There is a table of average servings which standardizes amounts; this and twenty-two other tables throughout the book are good for quick reference, as is the index.

The dietitions who edited this little manual are to be commended on its completeness. They designed it primarily for use at the University of Kansas School of Medicine but it could well be used as a basic or supplementary (reference) manual of diets by hospitals or clinics elsewhere. E.A.L. AND E.M.B.

EDITORIAL

John Carter and His Five Wives

THE most provocative tombstone in Virginia is in Lancaster County in old Christ Church. It marks the grave of John Carter and four of his five wives. Buried also with them are George, the son of the first wife, and Sarah, the daughter of the fourth. The church itself is well worth a visit. The original church was a wooden structure built in 1670 by John Carter, the immigrant. The congregation outgrew this structure and there was a movement to build the new church in a more accessible location. Robert, the son of John, who was also known as King Carter, offered to build the new Church at his own expense if the location were not changed. It was completed in 1732, the year of Robert Carter's death. The building stands today as it was originally built. There have been no remodeling nor "improvements". Bishop Meade in "Old Churches, Ministers and Families of Virginia" (1857) says that the vestry book is unique in that the names of John Carter, John his eldest son, and Robert appear at the head of the vestry-lists even ahead of the minister. The inscription on John Carter's tomb, which is now within the enlarged church, is quite ambiguous and the Bishop misinterpreted it, and his mistake is perpetuated in the guide books of today. (Virginia: A Guide to the Old Dominion, 1941)



The names of the five wives are: (1), Jane Glynn, the mother of George, John, and Elizabeth; (2) Elinor Eltonhead, widow of Broca, n.i.; (3) Anne Carter, n.i., who brought to him the Cleve Carter e tate; (4) Sarah Ludlow, the mother of Robert (King) Carter from whom most of the Virginia Carters are descended; and (5) Elizabeth Shirley (or Shirlock), who survived her husband and bore him one son, Charles, who did not grow to manhood. The unproductive wives (nos. 2 and 5) were beneath the notice of the good Bishop.

What are the medical implications of this tombstone? That a man could within 20 years and without the aid of either murder or divorce marry so many times, did not

excite comment in those days. To be fruitful, multiply, and possess the earth, was the spirit of the Virginia frontier. To marry five times was not unusual in those days. Women entered the Holy state of matrimony at a tender age, bore many children and died young. A husband, after a respectable period of mourning, but more frequently without, usually remarried and continued to add to his family, and perchance to his fortune. However, not all the multiple marriages were on the male side. Widows were as quick to remarry as were widowers and some had the hardihood to remarry many times. The mother of Mrs. Elizabeth Carter of Lancaster County married six times.*

Two of John Carter's marriages were sterile, a surprisingly high percentage, but we know that sterile marriages were not uncommon. In families based on a series of many marriages, sterile matings had a tendency of being overlooked. John Washington, the immigrant, married three times and two of his marriages were infertile. In the next century the Father of His Country had no children, as is well known. Edmund Pendleton is another well known case of childlessness. His teen-age bride died in her first labor leaving a stillborn child. His second matrimonial venture was entirely fruitless. The families of less prominent Virginians show many instances of sterile matings. Most of them were due to relative infertility for the widows and widowers involved had children in previous or subsequent unions.

There was opportunity to study only one partner of a sterile mating in Colonial Virginia for death was the only end of marriage. Even a court order of separation was unheard of and the only divorce was that of Alice Clawson of Northampton County whose husband refused to give up his Indian concubine when he returned from reigning as principal chief of the Nanicokes (1655). Some one hundred and sixty years after this Josephine and Napoleon gave the world the classic example of relative sterility. Together they were unable to have a child, but each had issue by other mates.

The fewness of children per wife in John Carter's family is somewhat surprising especially to those of us who have been used to hearing about the wonderful fecundity of some of Virginia's aristocrats. William Byrd III, Lewis Burwell, Warner Washington, Mann Page, and Thomas Marshall each sired fifteen children, the 3rd Robert Carter seventeen, John Page twenty, and Charles Carter of Shirley twenty-three. Such fertility, while startling, was exceptional and did not lead to a great increase in population. The main factor in population growth or lack of growth in early Virginia was the tremendous and widespread infant mortality. According to Bruce, the average colonial family consisted of five persons.

Our four ladies who shared John Carter's tomb and the fifth who survived him do not support the rather prevalent idea that maternal mortality was high in those days. In the first place two of the five bore no children and in the second place none died shortly after giving birth. Of course there may have been deaths caused by complications of pregnancy—toxemias, hemorrhage, ectopic pregnancy or abortion. Little is said about miscarriages but we know that they did occur. From William Byrd's Diary we learn that little attention was paid to them, about as much as to profuse menstruation. As already stated, the first Mrs. Edmund Pendleton died in labor and other cases can be found in the biographies of early Virginians.

The effect of child bearing upon maternal health is not so apparent. A notable example is Mrs. Thomas Jefferson who bore her husband six children within ten years. Mr. Jefferson was constantly worried about her health and one gets the im-

*Va. Mag. of History & Biography V. 2 p. 237.

pression that he considered her frequent pregnancies to be at the bottom of her poor health. She died before she was thirty-four. Jefferson was an uncommonly observant man. He never remarried. The average man under such circumstances promptly found a new wife and continued his reproductive habits.

All are agreed that there was tremendous infant mortality. This was attributed to the long hot summers. How far back goes the old adage that it took unusual stamina to survive the second summer, we do not know, but it could easily date back to this period. Breast milk from either the mother or a wet nurse was well nigh universal and protected the infant to some extent at least through the first summer. Tuberculo is undoubtedly took its toll, for fresh air was greatly feared in olden times. There is little evidence that syphilis played any part in the excessive infant mortality or that it existed in the adults for that matter. Early marriage and quick remarriage in case of widowhood should have reduced promiscuity and consequently the incidence of venereal disease, but the continuity of the marriage state would have prolonged an existing infection and deprived the several wives of the natural curative effect of many pregnancies. In other words a syphilitic husband and five wives having say fifteen pregnancies between them would be likely to have several infected wives and many luetic children for none would have the therapeutic benefit that many pregnancies confer on a syphilitic mother, but if one woman bore him the fifteen children the younger children would probably be free from lues. All we can say is that the custom of early and repeated marriages that pertained in Colonial Virginia was in some respects conducive to congenital lues and in other respects it was not. Which was the greater influence we may never know.

The Tri-State Medical Journal

NUMBER one of volume one of the new organ of the Tri-State Medical Association of the Carolinas and Virginia came early in April. It has an attractive format and the usual contents of a medical association journal. In addition, the present number has salutes from each of the six medical schools in the Tri-State area. All six agree that there is a place for the new Journal but advance various reasons for their beliefs. Dr. Sanger, of the Medical College of Virginia, calls attention to the value of medical writing in the continuing post-graduate educational program. Not only does it advance medical knowledge, but it benefits the author in no uncertain way. The president, Dr. Gray Dixon, explains the new journal with the cliché, a "new broom sweeps clean". We hope that the "comfort of an old shoe" or the "wisdom of an old head" will not be forgotten.

At the end of fifty years in medicine I can testify to the value of medical associations and their official publications. One leaves one's *Alma Mater* with a store of information and inspiration that quickly becomes worthless unless it is constantly renewed. This can best be accomplished in one's local, state, regional, or special society. A well worked up paper or case report, presented and discussed in the meeting and published in its journal may benefit every one taking part in the exercise, but the one who reaps the greatest benefit is the author. There are still too few medical societies to fulfill adequately this phase of continuing post graduate training.

The *Monthly* sends greetings and best wishes to the *Tri-State Medical Journal*.

PRESIDENT'S PAGE

Acceptance Remarks of Dr. James L. Hamner

Outline of Objectives and Comment on Progress.

IN HIS acceptance remarks of the presidency of The Medical Society of Virginia, last Fall, your president Dr. Hamner, outlined certain objectives for his year in office. Some of these are thought to be of sufficient importance to bring to your attenion again. This is particularly true since so few members were present at this installation meeting, and all of us are so prone to forget. Too, some progress has been made. You should know about this.

I want, again, to thank you for this opportunity of service and the privilege of association with the fine men and women of the society. I also want to thank all of you for your encouragement and your willingness to help. This is evidenced by the cooperative spirit shown by so many capable and busy people in accepting the responsibility of committee membership and leadership. This is most important since the society has become so large and its activities so numerous that headquarters office, the council and the president could never do justice to the job of running it without good. active committees.

Believing, as I do, that the presidency is a privilege and should be a continuing service, I shall continue to work for the continuation of improvements started by my predecessors, as well as for the creation of new activities, new committees and other changes which may seem helpful.

The society should be strengthened in membership and in framework. With several hundred eligible physicians actively practicing in Virginia, who are not members of our society, the local and component societies should survey their areas and make every effort to get them as members. The names of several excellent men have had to be removed from the list of suggested committee members because they were not members of the State Society.

The framework of the State Society will be strengthened when district or component societies add new members, help to form active district councils, create grievance committees and work for more active public relations programs.

The brochure printed and distributed by the society to help people in selecting prepayment insurance of all kinds, should help clarify many confused minds, but it is up to us to assume active leadership in the management of Blue Shield, and in the stimulation of interest in Blue Cross and in commercial insurance companies which sell prepayment medical and hospital insurance. Adequate coverage of our people with voluntary insurance would be a tremendous blow to the efforts of people who wish to force compulsory insurance upon us.

To aid our medical schools in expanding and meeting added expenses necessary to educate the needed doctors, we must actively support the American Medical Education Foundation. An active committee, under the able leadership of Dr. Marcellus A. Johnson, Jr., of Roanoke, has been created for this purpose. Everyone is urged to support this program to prevent Federal Aid and ultimate control of our medical schools by the government.

We have lost one delegate to the American Medical Association because of the failure of our members to pay their A. M. A. dues. We can ill afford to lose this delegate. We must put on an active campaign and get our members to pay their dues and regain this needed representation.

All of our committees should be strengthened but our Legislative Committee needs

our active support. It should deal not only with State Legislation but it should actively support the Legislative Committee of the A. M. A. in matters of National Legislation.

We were asked to appoint a Liaison Committee to work with the area director of the Welfare and Retirement Fund of the United Mine Workers. This is an important work. The Committee was authorized and the best possible membership selections have been made.

Better definitions of veteran's medical rights should be sought and a better system of treatment and an adjustment of the contracts between the Medical Society of Virginia and the Veterans Administration seems needed. Our Medical Service Committee is actively at work on this.

With 12,000,000 to 15,000,000 people above 65 years of age, and the many younger people who are crippled by accidents, polio, rheumatic fever, tuberculosis, and other chronic disabling diseases, it seems proper that the Medical Society should initiate a program for the treatment and rehabilitation of more of these people. Work with our State Boards of Health and Education should be started at once for the expansion of present facilities or the creation of new ones for that purpose. These people present real socio-economic problems and they must be looked out for.

Our Society should seek to more actively work with, and support existing health agencies and organizations which contribute to better health standards in Virginia. A conference with our State Boards of Health, Education, Dental, Pharmacy and Nursing Associations should be most helpful. Local health councils over the state and active cooperation with, and support of the Virginia Council on Health and Medical Care, should be most helpful in working out such a program.

Our already excellent Public Relations Program should be broadened and given more general support. The annual meeting of the Public Relations Committee in Roanoke, in January was a real eye opener. Many excellent thoughts were brought out. People should be urged to secure family physicians who will take care of their needs. To be sure that medical care will always be available, every county, town and city should create an emergency panel of physicians who, by rotating their services, could provide adequate medical care on Sundays, holidays and at night. Grievance Committees should be created by all societies and publicity given such action.

We should individually, and as a society, try to impress upon the people the importance of developing a sense of responsibility for themselves and their dependents. The doctor should not be held responsible for the medical needs of people who make no effort for themselves. We must try to educate them to share their part of the load.

The members of the profession, health clinics and organizations, and our medical colleges are carrying a lion's share of the free health and medical care load. These and many other services rendered by the profession and allied agencies are seldom mentioned, while any, even minor, adverse criticism of the doctor's efforts makes the headlines. We should get out of our shells and let the press have our side of the story too. That should be of invaluable aid.

Our Woman's Auxiliary, it seems to me, should be our greatest asset, particularly in public relations. They are anxiously waiting to be given something to do. They can do more for good public relations than any of our allied groups. This was greatly emphasized at the Annual Public Relations meeting. The Council has made some definite strides toward bringing the Auxiliary into the position it so well deserves. It is hoped to have representation from the Auxiliary attend the meetings of the Council and the House of Delegates. Too, it is hoped that our annual budget will provide funds for certain of their activities. They need and deserve our encouragement and support. Let us all urge our wives to join the Auxiliary and support it in any way

possible. I know the Auxiliary can and will, if given an opportunity, be our most valuable aid.

No mention was made of Civil Defense last October. An excellent committee has been organized under the able leadership of Dr. Fletcher J. Wright, of Petersburg. They have met and are trying hard to do a good job.

Every member of the Society and the Auxiliary should think of and be ready, always, to help in this undertaking. Civil Defense is Everybody's Business.

The field which seemed so large last October has continued to expand. The job which seemed so tremendous has continued to grow. The loyal support of the headquarters staff, and of all the profession, which was needed and requested, has made many things possible, however, and we hope success will be ours.

Just as our program is the product of many minds, the achievement of our objectives will be the result of the all out cooperation of all of us. At this midway point, the light of success seems brighter than on October 1st of last year. You are urged to help us keep pulling and pushing. Without your help we cannot succeed, with it, all of our objectives are possible. They seem worthwhile and worth working for. Let's not lose anyone of them.

SOCIETIES

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting on March 13, at which time Dr. Edward C. Curnen, Jr., Professor of Pediatrics at the University of North Carolina Medical School, Chapel Hill, talked on "The Recognition and Management of Acute Rheumatic Fever".

The physicians of the Academy volunteered their services in performing physical examinations on the football players in the local high schools next fall and will have a physician in attendance at all scheduled games.

WALTER C. FITZGERALD,
Secretary-Treasurer.

Patrick-Henry Medical Society.

Dr. D. L. Fleshman of Bassett is president for this year of the Patrick-Henry Medical Society, Dr. D. H. Mason of Ridgeway vice-president, and Dr. T. H. Dickerson of Martinsville secretary-treasurer.

Lynchburg Academy of Medicine.

At the regular monthly meeting of the Academy on March 9, at the Lynchburg General Hospital, Dr. G. Slaughter Fitz-Hugh of the University of Virginia spoke on "Maxilla Facial Surgery in Traumatic Injuries".

At a business meeting, Dr. George E. Calvert and Dr. Lloyd C. Agnew were received into full membership, having served the required waiting period of one year.

FRANK N. BUCK, JR.,
Secretary-Treasurer.

The Fairfax County Medical Society

Met on March 10th, at the home of Dr. John Zylman, in Arlington.

Dr. James Lafter was accepted for membership, and expects to practice in Falls Church. Dr. Mulvaney was also accepted for membership, and he expects to practice in McLean.

Dr. Riesenman gave a talk on paralyses of nervous origin.

The next meeting will be held on the second Tuesday in April, at a place to be announced.

ALICE H. KIESSLING,
Publicity Chairman.

NEWS

Tribute to Dr. W. T. Graham.

On March 19, a portrait of Dr. William Tate Graham was presented to the Crippled Children's Hospital of Richmond by the administrative and medical staff of the hospital in recognition of the splendid service he has rendered that institution. The presentation was made by Dr. James T. Tucker.

Dr. Graham and Miss Nannie Minor, then a vis-

iting nurse, established a small clinic for children afflicted in an infantile paralysis epidemic thirty-four years ago and, from a small beginning, the venture has grown to a 120-bed hospital of which Dr. Graham has been surgeon-in-chief since its beginning. The non-profit institution has continued and grown through gifts of time, money and professional services by individuals, civic and fraternal organizations, together with partial support from the Crippled Children's Bureau of the State Department of Health.

Dr. Nicholls Retires.

Dr. J. B. Nicholls retired as superintendent and medical director of Catawba Sanatorium on March 1, after completing a service of thirty-six years with the sanatorium. He first joined the staff of Catawba as an assistant physician in 1917, but four years later was appointed medical director. While connected with the staff, the sanatorium grew from 168 beds in 1917 to a total of 440 beds in 1953. As stated in a tribute to him in the *Roanoke Times,* "Now that * * * Dr. Nicholls, at 65, thinks he should retire, surely, he has earned a rest." He has returned to his home State of North Carolina.

In Charge of Catawba Sanatorium.

Dr. Mack I. Shanholtz, State Health Commissioner, has announced the appointment of Dr. Cecil C. Smith as Superintendent and Medical Director of Catawba Sanatorium, effective April 15. Dr. Smith, a native of Alabama, received his M.D. degree from Emory University and his M.P.H. degree from Johns Hopkins University. Before assuming his duties at Catawba, he was connected with a Veterans Administration Tuberculosis center in Mississippi. Dr. Smith is replacing Dr. J. B. Nicholls who retired on March 1.

AMA Meeting to Be Aired on Radio and TV.

Physicians who cannot attend the AMA's 102nd annual convention can see and hear highlights of the meeting via radio and television.

The presidential inaugural ceremony will be broadcast coast to coast on Wednesday, June 3. Although the inauguration of President-Elect Edward J. McCormick will be held Tuesday, the coronation of Queen Elizabeth II of England on the same day—which will be widely covered by radio and television—has made it necessary to re-broadcast the proceedings on Wednesday evening.

In television areas, the half-hour "March of Medicine" program, originating at the Scientific Exhibit in New York's Grand Central Palace, will be presented either Thursday or Friday evening. This television coverage will be sponsored by Smith, Kline and French, Philadelphia pharmaceutical firm.

AMA Exhibits Face Big Year.

To all four corners of the country go AMA exhibits! These exhibits are displayed not only at AMA annual and clinical meetings but also at home and food shows, automobile shows, farm shows, state and county fairs, and over television. So far in 1953 there have been 130 exhibition days in seven states. Bookings now on hand total 187 days of exhibit showings in 21 states, with a total of 43 different showings already scheduled.

So popular has been the display entitled "Testing the Drinking Driver" that two copies were prepared. Last year one of these was shown 96 days before 19 different groups in nine states, while the other copy was shown 84 days before 22 groups in 11 states. All bookings are handled through the Bureau of Exhibits.

Dr. Blanton Honored.

Dr. Wyndham B. Blanton, Richmond, was made vice-president of the American Academy of Allergy at its recent meeting in Boston. He has also been recently appointed to the Editorial Board of the Bulletin of the History of Medicine published by the Johns-Hopkins University.

Dr. A. B. Gravatt, Jr.,

Kilmarnock, has been elected president of the Kilmarnock-Irvington-White Stone Rotary Club.

Change of Directors in Health Districts.

Dr. Laurence T. Giles, who has been acting health director of Fredericksburg and three nearby counties, since last Fall, substituting for Dr. H. D. Crow who has been doing special work with the State Department of Health, left April 1 to become health director of the district embracing Prince William, Fauquier and Rappahannock Counties. He has headquarters in Warrenton.

The American Therapeutic Society

Will hold its annual meeting in the Hotel Biltmore, New York City, on May 28-31. Outstanding in the program will be a symposium on Tobacco, with Dr. Arthur C. Degraff of New York as moderator. A Round Table discussion will follow the presentation of these seven papers. In addition to this,

there will be two symposiums on "Recent Advances in Medicine" by Dr. O. P. J. Falk of St. Louis, and "Recent Advances in Surgery" by Dr. W. Wayne Babcock of Philadelphia. One entire day will be devoted to new items in the therapeutic armamentarium. Guests are welcome to these scientific sessions.

Further information may be obtained from Dr. Oscar B. Hunter, Jr., Secretary, 915-19th Street, N.W., Washington 6, D. C.

Correction for Tumor Clinics.

On page 246, of the April *Monthly*, days for the Clinics at the Medical College of Virginia, Richmond, should *not* have included Wednesday. The days for Richmond should be:

Tuesday—General, 8:30 A.M.
Thursday—Gyn, 8:30 A.M.
Head and Neck, 8:30 A.M.
Friday—G.U., 12:00 Noon.

Dr. Austin I. Dodson, Jr.,

Class of '46, Medical College of Virginia, after service in the U. S. Navy, has located in Richmond and is associated with his father in Medical Arts Building.

Virginia Surgical Society.

The first business meeting of this Society will be held at 2:00 p.m. on Saturday, May 23rd, at the Richmond Academy of Medicine, 1200 East Clay Street, Richmond. Purpose of this meeting is to adopt a constitution and to elect officers for the coming year.

A luncheon will be served for members and their wives at 12:30 p.m. in the dining room of the Academy. Reservations for the luncheon can be made in advance to the secretary, W. M. Hill, M.D., 401 West Grace Street, Richmond.

Dr. J. Coleman Motley,

Lottsburg, was elected first vice-president of the newly formed Lions Club of Northumberland County, at its organizational meeting March 23.

Dr. Armistead D. Williams

Has been elected president of the Richmond Area Heart Association, the new name given to the former Richmond Chapter of the American Heart Association. Dr. Reno Porter has been named second vice-president.

A Graduate Course in Recent Advances in Cardiac Therapy

Will be given by the Kanawha Medical Society September 16, 1953 at Charleston, W. Va. This one-day course will be presented with the aid of "Lantern Slides" and the talks will be informal. It is the hope of the committee, that the physicans will be presented with practical points of treatment to aid them in their everyday practice.

The members of the faculty will include:

Charles P. Bailey, M.D.——Philadelphia, Pa.
Ralph E. Dolkart, M.D.——Chicago, Illinois
R. W. Kissane, M.D.——Columbus, Ohio
Edward S. Orgain, M.D.——Durham, N. C.
Francis F. Rosenbaum, M.D.——Milwaukee, Wisc.

The West Virginia Academy of General Practice

Is to hold its first annual assembly at the Daniel Boone Hotel, Charleston, W. Va., Saturday and Sunday, May 16 and 17. They have arranged an excellent program with twelve out-of-State medical guest speakers, each distinguished in his special field. There will also be a Panel discussion and a Symposium with local doctors as moderators. Dr. Edward E. Haddock, Richmond, Va., Mayor of that city and recent president of the Virginia A.G.P., will be speaker at the banquet to be held on Saturday evening. There will also be a program for the ladies. Make plans to attend by writing directly to the Reservation Manager, Daniel Boone Hotel, Charleston, W. Va., who will confirm reservations.

Dr. Charles M. Caravati,

Richmond, participated in the Sixth Annual Medical Symposium in Greensboro Academy of Medicine, Greensboro, N. C., on March 25, and presented a paper on "Lesions of the Distal Stomach".

Dr. Richard N. Baylor,

Richmond, who has been a medical examiner, part time, with the Richmond Employees' Medical Service, resigned this position April 17 with the view of accepting a medical position with a private company.

Dr. Granville L. Jones,

Superintendent of Eastern State Hospital, Williamsburg, has been re-elected president of the Williamsburg Community Council, an organization of civic groups.

Medical College of Virginia Alumni Association.

Dr. J. Asa Shield of Richmond will be installed as president of the Medical College of Virginia

Alumni Association at its annual meeting on June 1. J. Curtis Nottingham of Richmond, executive secretary of the Virginia Pharmaceutical Association, has been made president-elect and will take office in 1954. Medical vice-president will be Rear Admiral Sterling S. Cook of Norfolk, chief medical officer of the Fifth Naval District, Dr. John A. Tolley of Arlington will be dental vice-president, G. W. Hook of Manassas will be vice-president from pharmacy, and Mrs. Sabra Sturt Sadler vice-president from nursing.

Dr. Richard L. Simpson of Richmond was elected secretary and Dr. Harvey B. Haag was re-elected to his tenth term as treasurer. New members of the Association's Board of Trustees are Dr. Richard A. Michaux, Dr. Robert V. Terrell, Dr. J. J. Stigall, Miss Dorsye Russell, Lloyd C. Bird and E. Claiborne Robins.

Dr. C. L. Outland of Richmond has been appointed chairman of the 1953 Alumni Reunion, which will be held on June 1. The program will include a golf tournament, the annual business meeting of the Association at 3:00 P.M. at the Alumni House and the annual social hour, banquet and dance at the John Marshall Hotel on Monday night.

A Joint Meeting.

The Virginia Society for Pathology and Laboratory Medicine and the Virginia Society of Medical Technologists and Laboratory Technicians, Inc., held a Joint Session at the Hotel John Marshall on January 17, 1953. This meeting was the first of the annual sessions which these two organizations plan to hold. The program was arranged by Dr. H. G. Kupfer, of the Medical College of Virginia.

At the business meeting of the Pathologists, the evaluation studies on clinical chemistry which the Society has been conducting for over a year, were discussed. It is anticipated to broaden the evaluations to include febrile agglutination determinations.

Annual Assembly in Otolaryngology.

The Department of Otolaryngology, University of Illinois College of Medicine, announces its Annual Assembly in Otolaryngology, divided into sections:

A. Basic Section, September 21 through 26, 1953, devoted to surgical anatomy and cadaver dissection of the head and neck, and histopathology of the ear, nose and throat, under the direction of Dr. M. F. Snitman.

B. Clinical Section, September 28 through October 3, 1953, consisting of lectures and panel discussions, with group participation of otolaryngological problems and current trends in medical and surgical management.

Registration will be limited. Application for attendance at one or both sections will be optional. For information write to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

The International Academy of Proctology.

All physicians are cordially invited to attend the Fifth Annual Convention of the International Academy of Proctology to be held at the Plaza Hotel, New York City, May 29, 30 and 31st, directly preceding the American Medical Association 1953 meeting. The meeting this year will be extended to include a Surgical Clinic and Seminar at Jersey City Medical Center under the direction of Dr. Earl J. Halligan. The "Wet Clinic" and Seminar will be on May 28th. An extensive Motion Picture Seminar of Proctologic Surgery (including office techniques) will be held on May 31st. All scientific papers will present the latest developments in proctology and gastroenterology.

Because general practitioners, as well as gastroenterologists and proctologists, face proctologic problems in their daily practice, much of the program has been planned to answer their questions. There is no fee for attendance.

The program will be available upon request to the Executive Offices of the International Academy of Proctology, 43-55 Kissena Blvd., Flushing, New York.

Virginia Doctors Speak in Philadelphia.

Dr. Thomas W. Murrell of Richmond and Dr. Chester D. Bradley of Newport News addressed the Section on History of the College of Physicians in Philadelphia on March 26. Dr. Murrell spoke on "The Exodus of the Southern Medical Students from Philadelphia in 1859." Dr. Bradley's subject was "Dr. Craven and the Shackling of Jefferson Davis."

Dr. Thomas E. Hughes,

Who recently retired from practice in Richmond, has opened offices at 120 South Royal Avenue, Front Royal, for the practice of otolaryngology. His home is Aspen Dale Farm at Delaplane in Fauquier County.

Seeds for Democracy.

This is a self help program introduced two years ago by the Committee for Free Asia in an international project to illustrate the concern and friendship for other peoples. The need is for vegetable seed as these do not reproduce well in the Philippine Islands and must be imported which makes them costly. The drive will be conducted through September 21, 1953. Full information about the seeds needed and how to be shipped may be received from Seeds for Democracy, Committee for Free Asia, 105 Market Street, San Francisco, California.

Doctor's Office

For rent in a professional building, 1400 Colonial Avenue, Norfolk, Virginia. 2nd floor, 4 large rooms, heat and all utilities furnished. $160 per month, immediate possession. H. W. Holland and Company, 506 Western Union Building, Norfolk, Virginia. Dial 27496 or 27704.

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OBITUARIES

Dr. Robert L. Corbell, Sr.,

Who had lived in Portsmouth for fifty-five years, died March 24, after a brief illness. He was a native of Nansemond County and 81 years of age. Dr. Corbell graduated at the Medical College of Virginia in 1898, joined The Medical Society of Virginia that year and had been a Life member of it for several years. In addition to his other work, he was coroner of Portsmouth for approximately twelve years. His wife and four children, one of them Dr. R. L. Corbell, Jr., survive him.

Dr. Gilmer G. Holland.

We, the members of the Tri-County Medical Society, wish to pay memory to our beloved colleague and member, Dr. Gilmer G. Holland of Holland, Va. Dr. Holland died February 13, 1953, at the age of 59 years.

His passing took from the profession one of the true Family physicians. Dr. Holland began practice with his father in the town of his birth upon his graduation from the Medical College of Virginia in 1920. He served his own community throughout his entire life. He served his people faithfully as their physician and friend.

His funeral was attended by his friends from all walks of life and the tributes paid far exceeded any in this committee's memory. He was truly the Beloved Physician.

THEREFORE BE IT RESOLVED:

FIRST, that we thank God for his life and his devotion to his Profession;

SECOND, that we extend our deepest sympathy to his devoted family;

BE IT FURTHERMORE RESOLVED, that a copy of these resolutions be spread upon the minutes of this Society, a copy be sent to his family, and another copy to the VIRGINIA MEDICAL MONTHLY for publication.

W. HOLMES CHAPMAN, JR.
J. W. LAMBDIN
F. IVAN STEELE
Committee

Dr. H. Mason Wingfield,

Richmond, died March 21, having become ill while visiting at the home of a friend. He was forty-eight years of age and a graduate of the Medical College of Virginia in 1934. Shortly thereafter, he started practice in Richmond. He was a member of the board of directors of the Richmond Chapter of the American Academy of General Practice, and was a member of his local and State medical societies as well as of the American Medical Association. He is survived by his mother, a daughter and two brothers.

Captain Harry Buyer La Favre, MC, USN, (Ret.)

The members of the Princess Anne County Medical Society stood for one minute in silent tribute to the memory of Dr. La Favre at their regularly monthly meeting on March 6th. Dr. La Favre died Wednesday, February 18th. at 9 P. M. at the Portsmouth Naval Hospital after a protracted illness.

A career Naval medical officer, he had spent 30 years in the service and was veteran of two World Wars. He established and commanded a Naval hospital at Casablanca, as well as the medical forces ashore, until June 1945. He then returned to the United States and established a 2,000 bed hospital at Medford, Oregon, which he commanded until after the Japanese surrender.

In July 1950 he entered private practice at Virginia Beach and was house physician of the Mayflower apartments. He was a former secretary of the Princess Anne County Medical Society and a member of the Galilee Episcopal church.

Dr. La Favre was a genteel gentleman, kind and gracious in his manner, and highly accomplished in his professional attainments. In his passing the community and the medical profession has suffered a great loss.

As a memorial to him we ask that this be recorded in the minutes of the Society and a copy be sent to the family and to the Virginia Medical Monthly.

(Signed) CORA Z. CORPENING, *Chairman*
ROBERT W. WOODHOUSE, JR.
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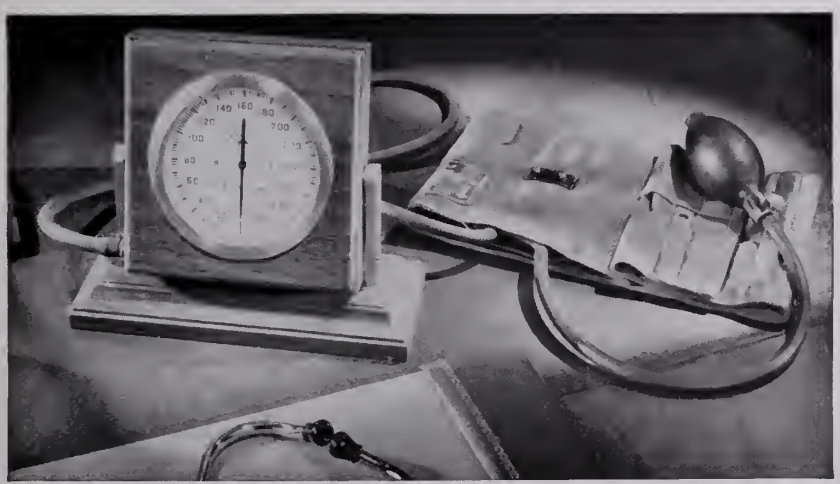
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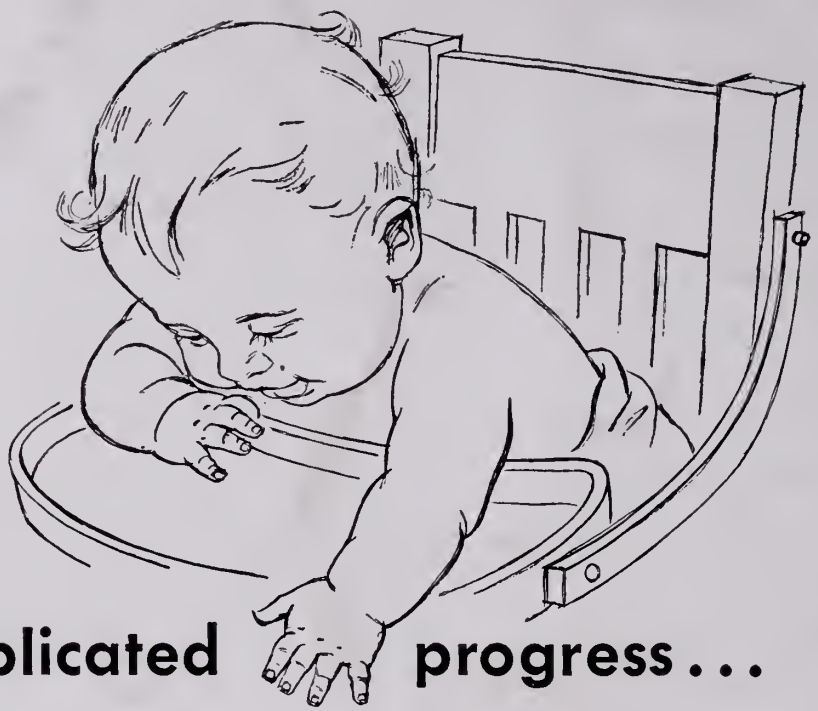
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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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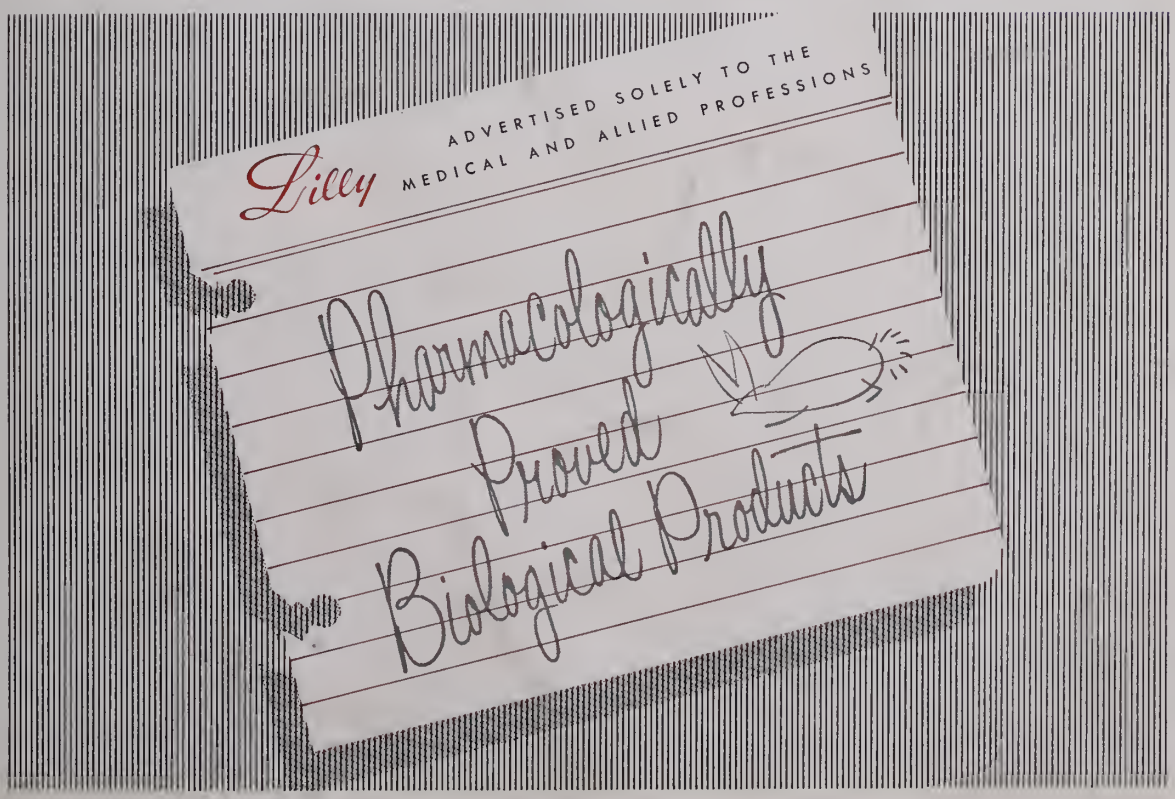
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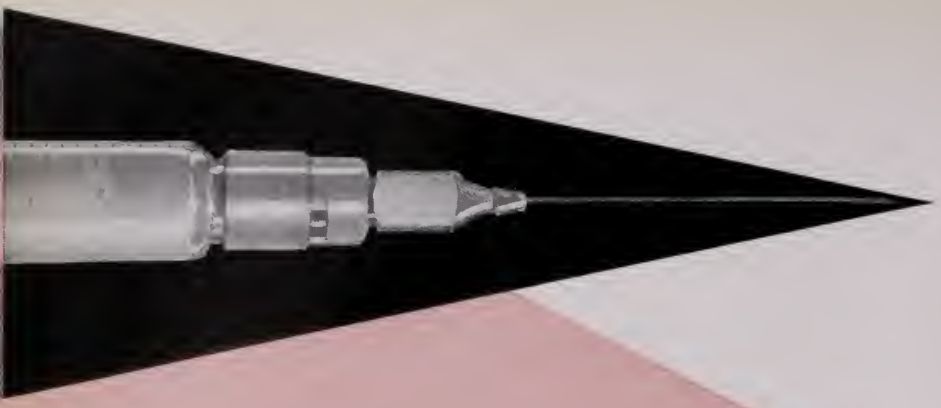
VIRGINIA MEDICAL MONTHLY

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Virginia Medical Monthly

Vol. 80, No. 6
WHOLE No. 1212

RICHMOND, VA., JUNE, 1953

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GUEST EDITORIAL

The Modern Trend of Medical Thought

AS THE extensiveness and thoroughness of subversive forces in America unfolds before our astonished gaze, it seems unlikely that any phase of our national life is exempt from its attack or immune from its effects.

We have found evidences of it in our educational structure from the early grades through graduate school. Our economic structure, especially organized labor, is a ready medium for it. Literature is rife with radical and communistic ideas, especially where it can act most effectively, as in movie script. Pornography and filthy literature seem to thrive in this atmosphere of total irresponsibility.

The moral structure of America has thus been honey-combed with physically attractive ideas such as atheism; free love; rationalism of honesty, to teach that all is good "if one can get away with it". It is of little wonder that the American home has been endangered, divorce commonplace, dishonesty current and immorality rampant.

Certainly, most of us were surprised to find communism deeply entrenched in the high government places. Some of us have been naive enough to disbelieve the evidence that Hisses, Fuchs, Goldsteins and Rosenbergs, to mention only a few, could betray this good, free life of theirs, in this great land of ours.

This has been no sudden change, but its rapidity of growth has been phenomenal. First the physical rather than ethical ideas must gain prominence in our thoughts. The exaggerated importance of luxury, ease and comfort soon exalts the dollar which is its medium of attainment. With these altered ideals it is but a short step to cynicism, fear and selfishness. All of this in the name of progress adds to its danger.

In view of this widespread infiltration of our whole national life by unhealthy psychology, it seems highly improbable that our great medical profession should be exempted. It would seem timely to look for symptoms and signs of the inroads on our present medical thought by materialistic and therefore subversive ideas.

Are we older men forgetting the Hippocratic Code, so deeply impressed upon us by our preceptors? Are we thinking more of our fatigue and physical comfort than the cure of illness about us? Are our younger colleagues being taught that this great profession is primarily for service to others? That respect in public opinion, and the satisfaction of leading a useful, fruitful life for our fellow man is more important than money? When our medical schools choose their candidates, are their spiritual backgrounds considered as much as class grades? If not, the profession must lose the confidence of our public, certainly one of its greatest assets.

Should we expect pay for our every effort in behalf of people? In fact, should we expect full payment for any effort? A few weeks ago a prominent man and his wife were in a terribly disabling automobile wreck. In a short while a physician's car came by and he gave aid, until an ambulance arrived to take the victims to a nearby hospital.

The feeling of gratitude was great in the patient's heart for the help given by the physician and he wished he knew his benefactor's name so that he could at least write him a note of thanks. In about two or three weeks a bill was received for $35.00 for each victim. The statement was itemized, "charge for extricating from accident".

The patient knows of no unusual first aid being rendered or dressing applied. A great plug for our public relations had been passed up. Materialistic selfishness replaced the urge to help the unfortunate sick. On the surface, certainly, this type of thing lowers our profession to the level of the trades.

Our public relations demands that we resurvey our destination in medical thought today. It demands that we go the "extra mile" and give some service for the sheer delight of being helpful to our fellow man. This is an art and service which must be given cheerfully and in excess of material return. "Man cannot live by bread alone", nor can the medical profession by monetary gain.

H. GRANT PRESTON, M.D.
Harrisonburg, Virginia.

IS SOCIALIZED MEDICINE DEAD? Leave it to Representative Dingell (D., Mich.) to keep the socialized medicine issue alive, even with the change to a Republican administration in Washington.

Like the perennial plant that blooms each year, Mr. Dingell introduced compulsory national health insurance legislation as soon as the new Congress opened for business. At the same time he issued a statement, saying that his bill had the same objectives as the report of the Truman Commission for the Health Needs of the Nation and the "same freedom from socialistic taint."

"It is my aim," he said, "to keep this legislation before Congress."

$10,000,000 is needed to augment the national fund for our medical schools during 1953. A goal of $2,000,000 has been set by the American Medical Education Foundation as its contribution to this requirement. Your contribution will assist your medical school and it is a deductible item when computing federal income taxes.

OSLER AND WELCH
FOUNDERS OF MODERN AMERICAN PUBLIC HEALTH*

Huntington Williams, M.D.,
Commissioner of Health of Baltimore City,
Baltimore, Maryland.

Dr. William Osler, later Sir William Osler the Regius Professor of Medicine at Oxford University, was born at the edge of the wilderness just a bit to the north of Toronto on July 12, 1849. From the Toronto Medical School he passed to McGill University in Montreal, then to the University of Pennsylvania and he came to Baltimore with the opening of the Johns Hopkins Hospital on May 7, 1889. Here he stayed until his departure for England on May 19, 1905.

Dr. William H. Welch was born in Norfolk, Connecticut, almost exactly nine months after the birth of Osler, on April 8, 1850. From Yale he went to the Bellevue Hospital Medical College in New York City and came to Baltimore in October, 1885, at the age of thirty-five years, almost four years before Osler was to come; in reality, Welch was the foundation stone on which the Johns Hopkins Hospital and the Johns Hopkins Medical School were built. He stayed in Baltimore until his dying day, April 30, 1934, and during his long and distinguished career become the Dean of American Medicine.

Together Osler and Welch revolutionized medical education.

Together they reached the topmost heights in their chosen profession and as civic leaders, and

Together they fought the battles that have put American Public Health where it is today.

Of course, many, many other teammates made their successes possible, but they were everywhere recognized as the leaders in what Simon Flexner would call the Heroic Age in Modern Medicine.

It was the purest chance that Dr. Welch's sister married a close cousin of my Father, who had come to the Johns Hopkins University in 1883 when the institution was only seven years old and where he became the first professor of geology; so it was the very best of fortune for me to grow up under the strong influence of Osler and Welch and Dr. Henry M. Hurd, the first superintendent of the Johns Hopkins Hospital in Osler's day, whom I knew as Uncle Henry, for he had married my grandmother's sister.

Osler left Baltimore when I was a bit over twelve years old, but I can clearly remember being sent to his office by my Mother for a routine physical examination, and even more clearly as a member of a faculty family, listening to him deliver his going-away address, *The Fixed Period*. This, you will remember, was his famous and much misinterpreted speech in which he was seeking to lessen the note of sadness due to his approaching separation from old friends and in which he facetiously commented on the peaceful departure of men at the age of sixty by chloroform. He was the principal speaker at the annual exercises commemorating the opening of the Johns Hopkins University which then in 1905 as now are held by tradition on Washington's birthday.

Again, it was most fortunate indeed for me to be of the vintage of a senior medical student in October, 1918, when the newly established Johns Hopkins School of Hygiene and Public Health first opened its doors and I was on the doorstep to enter as a first student. As you know, there had never before been a specially constituted academic institution established for the sole purpose of training health officers and other health department professional workers. This new and pioneer achievement of Dr. Welch's just prior to his seventieth birthday was characteristic of the man, for he went from one magnificent achievement in medicine to another through his long life at seemly and appropriate decennial intervals.

So, what more natural than for my Cushing's *Life of Osler* and my copy of the Flexners' *William H. Welch* to be pock-marked in the margins with P.H., P.H., P.H., or for me long ago to hope for an occasion to put together the story of these two great men and their major contributions to modern American public health?

William Osler

Anyone who remembers or has read of either Osler or Welch will recollect the deeply religious background that was woven into the early childhood of

*Read before the Annual Meeting of the Section on the History of Medicine of the Richmond Academy of Medicine, Richmond, Virginia, February 10, 1953.

each of them. This probably was the basis for their seriousness of life-purpose and the explanation of their abiding success. Both alike were endowed with very rare humor and a *penchant* for practical jokes that surely endeared them to the onlookers, if not always to the victims of these practices.

So at the early age of fourteen, Osler was expelled from school for practical jokes that did not appeal to the school authorities, and from this early day throughout his life he was known for his puckishness. But I must get on to my theme which is his interest and achievements in public health.

He writes that when he began clinical work at the Montreal General Hospital in 1870, the hospital building "was an old coccus- and rat-ridden building . . . pneumonia, phthisis, sepsis and dysentery were rife." Tuberculosis and its control were to be among Osler's greatest interests throughout his life. Two years later he received a special graduation prize for his thesis, which, though never published, remains to us in its fragment, the introduction, in which he wrote:

"To investigate the causes of death, to examine carefully the condition of organs, after such changes have gone on in them as to render existence impossible and to *apply* such Knowledge to the *prevention* and treatment of disease, is one of the highest objects of the Physician. . . ."

This early emphasis and interest on studying the etiology of the killing diseases coupled with the desire to apply knowledge for the prevention as well as for the treatment of disease is striking to the health officer disciple. We must remember that both Osler and Welch in those days lived in the midst of great surges of killing communicable diseases such as we rarely see nowadays, and lost friends and loved ones and colleagues in a way that would terrify us today. So, it was more than natural that our two medical heroes were constantly being stimulated to give sharp personal attention to improving the public health in their day.

Following his medical graduation in 1872, Osler writes of the sanitary reforms instituted in Berlin by Virchow. We see Virchow, the pathologist, fifty-two years of age, and Osler, twenty-four years old, and get this picture of Virchow, the leading medico active in public works and public health, described by Osler as

". . . an ardent politician, evidently the leader of the Prussian Opposition, and a member on whom a large share of the work of the budget falls; an active citizen, member of the Council, and the moving spirit in the new canalization or sewerage system . . ."

Back in Montreal, we find the record of Osler working in the smallpox wards, with this killing disease particularly prevalent and malignant in the city in 1875, as frequently seen in most seaport towns at that time. There was no compulsory vaccination, rarely any revaccination and nothing much in the way of quarantine. An antivaccination riot occurred in the city, during which it is recorded that the house of one of the medical health officers was gutted. And in the autumn of the year, although repeatedly vaccinated and considered immune, Osler comes down with smallpox himself.

Osler studied trichinosis in Montreal and reported to the city board of health with emphasis on the need for a municipal food control service. This is early evidence of what became a life-long habit with both Osler and Welch, namely, to play a large part in the modernizing of the local public health machinery, decade by decade, in whatever city either might be residing at a given time.

We are now in the year 1882 when Koch announced the discovery of the tubercle bacillus in his celebrated address in Berlin on March 24. By July there is in a local Montreal medical journal a note to the effect that at the McGill Physiological Laboratory, Professor Osler, before the class of senior students, successfully demonstrated the presence of the organism in the lung of a man who had died of rapid general tuberculosis.

We can skip to Osler's arrival in Baltimore in 1889. Welch is there and the two are soon joined by Dr. Hurd, Superintendent of the new Johns Hopkins Hospital, chosen to relieve the president of the university, Daniel C. Gilman, from his own self-imposed task of serving from May to August as hospital superintendent.

Osler gave the larger part of 1891 to the writing of his great textbook, *The Principles and Practice of Medicine*. On February 22 of that year he gave the main address at the Johns Hopkins University annual ceremonies, and as local public officials were present with the University on the occasion, Osler felt impelled to think of the notoriously unsanitary conditions which then existed in Baltimore and spoke with emphasis on the prevention of disease through sanitary science, and told of the possibilities of intelligent cooperation on the part of the city govern-

ment that would result in better sewer facilities and purified water supplies that could reduce "the mortality from certain diseases fifty per cent."

At the annual meeting of the Medical and Chirurgical Faculty, our state medical society, in April of that year, Osler gave an address under the title, *The Healing of Tuberculosis,* which Cushing states "may be regarded as the date of his personal enlistment in the crusade against this disease—a crusade which demanded, above all else, the awakening of public opinion from its existing indifference and ignorance . . . his vigorous early participation in what has become a world-wide campaign against tuberculosis must stand in the forefront of the many public services he rendered—services which in large measure have been lost sight of in the maze of his other activities."

Again he returns to the battle against typhoid, a disease regarded in the early 90's with civic indifference although the same disease which today is looked upon as a disgrace in any community. It was in large measure Osler who brought about this change in attitude and in his paper on "Typhoid Fever in Baltimore" in 1894 he enlists in this battle for improved public sanitation and writes:

"Among the cities which still pay an unnecessary Delian tribute of young lives to the Minotaur of infectious diseases, Baltimore holds a high rank. The pity of it is, too, that this annual sacrifice of thousands of lives (2,281 for 1892, not including consumption), is not due to ignorance. For more than fifty years this gospel of preventive medicine has been preached—whether they would hear or whether they would forbear—in the ears of councils and corporations; that *three measures, efficiently designed and efficiently carried out, reduce to a minimum the incidence of infectious diseases: viz, pure water, good drainage, and a proper isolation of the sick.* Of sanitary essentials in a modern town, Baltimore has a well-arranged water supply; still, however, with unprotected sources and constant liability to contamination. It has nothing else—no sewage system, no system of isolation of the sick, no hospital for infectious diseases, no compulsory notification of such a disease as typhoid fever, no disinfecting station, no system of street-watering, no inspection of dairies, no inspection of meat. The streets are cleaned, but so carelessly that for a large part of the year the citizens breathe a mixture of horse-dung and filth of all sorts. Perhaps the best gauge of the sanitary conditions of a city is to be found in the mortality returns from typhoid fever."

Cushing, in a footnote, here returns to his earlier theme and writes:

"The influence which, first and last, Osler exercised as a national and civic sanitary propagandist has been too little emphasized. To-day in our comparative security against serious epidemics it is difficult to realize the annual death-roll of the '90's from diseases now under control."

And I would add here that my own Father died of typhoid in 1894 and Osler went to see him in Utica, New York, toward the end.

As hinted above, Osler was stimulated in this reform effort because one of his assistant residents in the hospital was ill with the typhoid which proved fatal, and this staff member was not the only victim of typhoid among the hospital family. "Typhoid in the United States," he wrote, "is *the fever.* With good drainage, pure water and pure milk, typhoid fever goes the way of typhus and cholera . . ." and he showed that the mortality rates of Washington and Baltimore and many smaller cities demonstrated the culpable negligence that allowed this most easily preventable disease to continue its ravages.

Osler became President of the Medical and Chirurgical Faculty in 1896. He aroused the venerable society from its lethargy and among other things forced it to take a definite stand on issues relating to the public health. A Health Department bacteriologist had been appointed by the Baltimore City Health Department but the body as a whole was still dormant and badly needed the awakening which could only come from an enlightened public opinion. Osler spoke on these matters—a reorganized board of health, remodeling of the lunacy laws, proper milk inspection, proper control of water supplies, and a hospital for infectious diseases.

Osler and Welch started battling against the antivivisection legislation in Congress in 1896 and 1897 and with great acumen continued watching over this vital matter as the years went by, returning to the fray in 1900. It is only someone who has gone to the legislative halls on repeated occasions to battle some recurring bad medical bill who can appreciate what this meant to medicine in the United States, this willingness on the part of both Osler and Welch to pull themselves away from their regular work and interest, and fight the public battle for medicine and the public health.

Just as the century closed in November, 1899, Osler at the Medical and Chirurgical Faculty annual meeting takes up the cudgels again that he was so long to wield in an effort to conquer tuberculosis, and the paper he read at the meeting on "The Home Treatment of Consumption" is an important one. He has a nephew who, with one or two Johns Hopkins students, are cured under the supervision of Trudeau in the Adirondacks, but the story was different for the poor people in Baltimore who came traipsing to the hospital dispensary from terrific home and housing conditions that made the disease a prime killer in our city.

Yet it was the closeness of tuberculosis in Osler's nephew and in such students as Lawrason Brown and others that must have been a tremendous stimulus to Osler who concerned himself on a broad base with the health of the medical students and with tuberculosis in particular. Here is a dramatic episode: Osler called for volunteers and sent two third year medical students out to visit, investigate and instruct in the homes of consumptive outpatients, a work which grew and grew and was the basis on which all hospital social service work in this country was founded. One of the students gave a report on the social and domestic conditions of 190 cases of pulmonary tuberculosis that had been followed up in this way, at the first meeting of the Laennec Society. Welch was present and participated in this interest and in this work, and we can almost see the daily interplay between Osler and Welch during their years at Johns Hopkins together, in their absorbing public health interests as well as in other fields of medical science and medical education.

The health of the medical students, many of whom lived in unsanitary boarding houses, was a constant worry. A third year boy, worn out by his June examinations, is admitted to the hospital with tuberculosis, and Osler and Thayer are practically held responsible for this by the boy's family. In the single class of 1899, four students develop tuberculosis and J. B. MacCallum, said to be perhaps the most brilliant student ever graduated from the school, was beginning with the disease which ended a career of unusual promise four years later.

We are now in the year 1902. Dr. Welch is the President of the Maryland State Board of Health and Dr. Osler suggests a public meeting on the need for municipal tuberculosis sanatoria. The meeting was held under joint auspices with the Medical and Chirurgical Faculty of Maryland and the Laennec Society and other groups, and, as Cushing remarks, Dr. John S. Fulton, Executive Secretary of the State Board of Health, vividly laid bare the ignorance, vice and greed which propagate tuberculosis. This is the famous meeting when, to the amazement of Baltimore, Osler publicly shook his finger in the Mayor's face and told the audience and the Mayor of the 10,000 consumptives and asked what was being done about them. "We are doing, Mr. Mayor and fellow-citizens, not one solitary thing that a modern civilized community should do," and he told them of the two medical students who had visited the cases in their homes during the past few years and how the reports of these home visits constituted a community disgrace.

A physician who was present said that this unlooked for tirade made his hair stand on end and rather looked for a southern duel, but to his surprise later in the evening he saw the Mayor with his arm over Osler's shoulder and the conversation was of a most affectionate nature.

Here we have a striking example of Osler that can be matched in a way with Welch. Osler's speech was fiery and on purpose but he had always sympathy for others, and in this case for the man whose civic apathy he was exposing, a good hard-working fellow who didn't get his deserts. All this was done in such a way that they go out from the meeting arm in arm and affectionately. What a gift! Multiply this over the sixteen years and you will not wonder why public health workers and medical men in Baltimore cherish the memory of Osler, as it is cherished everywhere.

Watch Dr. Welch and a gentler but none the less persistent and effective approach. It was at about the turn of the century and Welch had taken advantage of a cholera scare to drive home to the public particular needs in health reforms after two generations of citizens' committees and health officials had been pleading for the purification of the city water supply. But Flexner tells us that Welch believed that

"under our existing political conditions, experience seems to show that more can be accomplished by the quiet, intelligent and well-directed efforts of individuals and of such organizations as societies for city improvement, which do not directly antagonize those who wield political power, and which receive the approval of the general public, than by spasmodic political movements for reform," and on the matter

of giving advice the biography adds that Welch "criticized only indirectly through suggesting something better."

Here by way of contrast you see two master scientific minds, integral parts of great human personalities, of what you might call the "gentle-fighting" type, each giving primary attention in his own way to accomplishing the removal of the lion-in-the-path obstacle that simply must in time be removed, the practical solution that would lead to achievement for the good of the people, for the prevention of disease, and for the protection of community health; each giving the problem the same meticulous personal attention and concern that a master surgeon would give in devising the infinite details that might result in a successful brain operation.

It is not to be wondered that over the years the governors of Maryland and the mayors of Baltimore have gone to such medical leaders as Osler and Welch, and, in our day, Maurice Pincoffs, and, indeed, to the Medical and Chirurgical Faculty almost as a habit, for quiet, behind-the-scenes guidance and advice when important decisions on medical matters cried out for statesman-like answers from our top government executives. I need only mention two fairly recent and striking examples of this, the discontinuance of the coroner system and its replacement in Maryland by the medical examiner system and even more important the adequate financial support of the new system when established; and the establishment under the State Planning Commission of a standing Committee on Medical Care with a resulting Medical Care Program now in operation through the state for a number of years and designed as Maryland's preventive answer to those who cry insistently for socialized medicine and compulsory health insurance.

Then there is the episode of the great Maryland State Tuberculosis Exhibit of 1904, followed by the organization in Atlantic City in June that year, of what is now the National Tuberculosis Association, and with Osler in the chair. And during the same year Harvard University would like to persuade Osler to move from Baltimore to Boston, but the call comes for him to become Regius Professor of Medicine at Oxford, a call he simply could not decline.

Cushing's second volume takes Dr. Osler from a noisy, hurly-burly Baltimore to the quiet of an Oxford suburb and follows him in magnificent detail from 1905 to the end of the story and his death on December 29, 1919. With great fascination the reader can follow Osler's joy in being at the heart of British medicine, with all the academic and cultural delights that went to his heart, his insistent collecting of rare medical volumes, and the writing of biobibliographies, each a scintillating chapter in medical history.

As in America, tuberculosis was a prime interest of Dr. Osler and he followed the same driving tactics in Ireland and in Britain in a combat with the tubercle bacillus which he called a people's battle. The antivivisection cause is fought again on a new battleground and the malaria control work in Rome is an interest and an activity in 1909. He revisits America from time to time. In 1909 it was for the dedication of Osler Hall, the big lecture hall and examination room that many of us know so well in the new Medical and Chirurgical Faculty building at 1211 Cathedral Street, I might add "the street where I was born." In 1913 it was for the opening of the Phipps psychiatric building at the Johns Hopkins Hospital, the last time that I saw him.

In 1910 Osler is at work fighting tuberculosis again and I may be permitted a few lines directly from Cushing:

"One cannot escape the feeling that Osler's greatest professional service was that of a propagandist of public health measures. His beginnings in this direction, seen even in his youthful days in Montreal, were actively continued in Baltimore, where he was constantly crusading against malaria and typhoid, not only in his wards but on public platforms; and he left there just as the anti-tuberculosis crusade was getting under way. With this same movement, as can be seen, he energetically allied himself while in England; nor was his a voice in the wilderness in this role he chose for himself—a role as important as that of the laboratory scientist whose cloistered studies supplied the knowledge on which our whole public health movement is based."

And so it was with Osler's interest in tropical diseases and their prevention, Osler acting on a world-wide stage as was frequently his custom; and Osler battling for compulsory typhoid vaccination among the troops in World War I, before the end of August, 1914. "In war the microbe kills more than the bullet," he writes. His one and only child, Revere Osler, goes off to the war, and what parent who ever had a soldier son at the front can read these pages of Cushing without emotion. And the

dreaded day comes when the boy is reported wounded and then dies at the end of August, 1917, and he is buried in a field in Flanders, a picture recalled as "A strange scene—the great-great-grandson of Paul Revere under a British flag, and awaiting him a group of some six or eight American Army medical officers—saddened with thoughts of his father."

The end of the war and the great influenza pandemic found Osler at the age of sixty-nine; there are rumors of his ill-health which he disclaims. With demobilization Osler and other leaders prevail upon *The Times,* after applying considerable pressure, to discuss the danger to the public health from the possible spread of venereal disease and this probably was his last campaign. In this final year *The Times* refers to him as one who "has done more than any man of his time to secure a true perspective in health affairs."

WILLIAM HENRY WELCH

In telling of Osler's prime activities in the field of public health it has been impossible not to refer to Dr. Welch from time to time—they were such intimate colleagues. Welch like Osler spent about two years in Europe, chiefly in Germany, in postgraduate work in the best of the medical laboratories, 1876 to 1878. In Munich he worked in the famous hygienic laboratory of Max von Pettenkofer and learned there that the sanitary reform of water purification would almost abolish typhoid fever, and in Berlin he enrolled in the first public course in bacteriology ever given by Robert Koch, the founder of the science, in his new laboratory there.

Returning from Europe, Welch spent six years in New York intent on establishing laboratory courses rather than lecture courses, in a time when laboratories were practically unknown in American medical schools. At the Bellevue Hospital Medical College he was given three rooms furnished with kitchen tables and the college, as he said, spent "fully twenty-five dollars in equipping the laboratory. . . . I sometimes feel rather blue when I look ahead and see that I am not going to be able to realize my aspirations in life. . . . There is no opportunity in this country, and it seems improbable that there ever will be," he wrote. Welch collected six antique microscopes and six students to work in pathology; the first laboratory course in pathology ever given in an American medical school. One of his students was Dr. Hermann M. Biggs and the fascination of Welch's pioneer course in bacteriology so captivated Biggs that he dedicated his life to the science and later became the greatest public health administrator America has ever known. With Koch's discovery of the tubercle bacillus and Welch's demonstration of the organism in his laboratory class which included Biggs, there is this description of Welch, the teacher, by Biggs, the student:

"In his most lucid and fascinating manner, he told us of this great work and of its significance to the future development of medicine. He showed us methods of staining sputum and demonstrating the tubercle bacilli. I can now see quite clearly the steam rising from the dish of carbol-fuchsin in the sand-bath containing the sputum while he talked. This served as my first inspiration."

His New York friends were distressed when Welch indicated that he might accept the invitation of President Gilman to come to the Johns Hopkins Medical School, but Gilman had the strongest recommendations from the professors in Germany and when the invitation finally came, Welch accepted it at the end of twenty days. It was during the period when he was considering this offer of the chair of pathology at Johns Hopkins that he received a letter from my Father, then at work in geology in Baltimore after three years in Heidelberg. Welch said that Father presented the matter of his coming to Johns Hopkins in about the same light in which he saw it. Father wrote that "no place in America offers the real opportunity for true scientific work which this does. You have said the same thing to me yourself." Furthermore, as a full professor Welch would have, like other full professors at Johns Hopkins, "literally perfect independence and everything for your work that you ask for." Welch would be able to organize the Medical Department from the very beginning and to build his library exactly as he wished, thus becoming the founder of a new medical school. "It seems to me," my Father continued, "that it is an opportunity for giving a start and impetus to the spirit of real scientific work which is thus far so sadly lacking on this side of the Atlantic, which can come to a man only once in a lifetime."

And Flexner writes:

"At thirty-five Welch had found himself a place in the world that was perfect to his needs and desires. For many years a genie confined in a bottle, he rose up, once the cork was pulled, into his true dimensions, and for almost fifty years he was to tower

over American medicine, determining, creating, helping change a backward profession into a leading profession of his time. Moving in a highly controversial field toward revolutionary ends, he was always gentle, never raising his voice above the tone of ordinary talk. He won campaign after campaign but never fought a battle; haste was unknown to him, or anger or the exuberant joy of putting an opponent down. He was to win affection and admiration until he became, first to his associates and then to younger scientists everywhere, in common parlance the beloved 'Popsy.' "

Although the Johns Hopkins Hospital was not to open until May, 1889, and the Medical School was not to open until October, 1893, Welch began instruction in general pathology and the pathology of fever and gave a course in bacteriology beginning in October, 1886. Of the latter course he said at the time, "So far as I know no similar course is given in this country and only three or four in Europe." At the end of this first academic year Welch reported jubilantly that twenty-six medical graduates had made use of his laboratory and that eight had undertaken original investigations.

From the first, as Flexner points out, Welch's life in Baltimore was that of a confirmed bachelor who knew how to make himself comfortable. He moved from Cathedral Street to 935 St. Paul Street (the house from which I was fortunate many years later to take my bride who is with us this evening) and later to 807 St. Paul Street, quite nearby. The Maryland Club and the University Club, both just around the corner, were large parts of Dr. Welch's life and the chosen haunts for the famous dinners that were so often his joy and a basis for some of his most effective achievements. Then, too, he was close to the Surgeon General's Library in Washington. And here is an intimate picture of his front studyroom catching fire in his absence in 1889, a room which, he said, contained a thousand and ninety books not including many unbound ones and pamphlets, with a large number of books and pamphlets in his bedroom that were not injured. This was a true picture of the man over the decades for I saw exactly the same distribution of printed matter when I went to the St. Paul Street rooms early on Welch's eightieth birthday to give him, for my Mother, a choice bottle of Madeira from Mr. Charles J. Bonaparte's cellar.

It is good to have in the record Flexner's clarification of the personal relations involved in the selection of "The Four Doctors" who founded the Johns Hopkins Medical School. Flexner tells us:

"Osler's appointment as professor of medicine is usually credited to Billings, but Welch said later that Billings had been opposed to the Canadian, whom he regarded as predominantly a laboratory man; Billings wished the appointment to go to the English physician Lauder Brunton, since he was more experienced in the practice of medicine. Welch, however, insisted that physiological and pathological laboratories were the best training ground even for a professor of practice. When his support of Osler finally prevailed, he wrote his sister that the new appointee 'is the best man to be found in the country and it is a great acquisition for us to secure him. I know him well and have the highest opinion of him as a scientist and as a man.'

"The authorities first offered the appointment in surgery to Sir William Macewen of Glasgow, who accepted, but, having no faith in anything American, made it a condition that he might bring his whole staff of nurses with him. When this was refused, the way was opened for Halsted, whom Welch had known well in New York. The last of 'the four doctors,' the famous first faculty of the Hopkins Medical School, was Howard Atwood Kelly, appointed associate professor of gynæcology and obstetrics in 1889. He was brought by Osler and thus could also be indirectly credited to Welch."

Toward the middle and end of the 90's, Dr. Welch is responsible for the first bacteriologist, Dr. William Royal Stokes, being appointed to establish and direct the public health laboratories which, for a number of years, served jointly the Baltimore City Health Department and the Maryland State Department of Health, and it was Dr. Stokes who was to die a martyr to science in line of duty autopsying a batch of infected parrots in the epidemic of psittacosis of 1930.

In 1897-98 we find Welch in Washington fighting the antivivisection bills in Congress, side by side with Osler. Welch became a political lobbyist, and particular care was taken to reach the family doctors and personal friends of individual senators. Finally the right side won, the committee fled from its chairman and he withdrew the bill. It was presented again in various forms for a number of years but the antivivisectionists had been fully routed. Yet Welch never under-estimated the seriousness of the

danger and wrote of this episode. "That was the hottest fight, I think, there has been."

At this time early in 1898, Dr. John S. Fulton, long-time Executive Secretary of the Maryland State Board of Health, persuaded the governor of the state to appoint Dr. Welch as a member of the State Board of Health. He attended his first meeting on February 10. My distinguished predecessor, Dr. C. Hampson Jones, the Commissioner of Health of Baltimore, was present and I mention this because since 1880 the state law has placed the Commissioner of Health of Baltimore City on the State Board of Health as an *ex-officio* member. Two years later Welch was elected President of the Maryland State Board of Health and in this capacity he presided over the meetings for twenty-two years and remained a member of the Board until 1929.

In 1936 Dr. William W. Ford, first professor of bacteriology at the Johns Hopkins School of Hygiene and Public Health and a State Board of Health member for many years, put together for the Board a record of Dr. Welch's public health work, and in this he points out that at the regular monthly meetings of the Board that he attended regularly when he was not out of town, Welch always interpreted the term *health* in the broadest sense to mean comfort and well-being as well as freedom from bodily and mental ills. At the meetings he was slow to make a decision, sought ample information in regard to every question, and liked to discuss matters thoroughly and weigh the pros and cons deliberately. His particular contribution may be said to have been his broad outlook for the health needs of the state, his intuition as to which should and could be met first, and his grasp of the ways and means of initiating and carrying out new projects.

As we have seen in 1904 Welch was side by side with Osler at the first great tuberculosis exhibit which was held in Baltimore City and later at the meetings leading to the establishment that year of the organization now known as the National Tuberculosis Association. Besides tuberculosis, other public health programs involving the control of food and drugs, the improvement of the sanitary engineering work in rural Maryland, and especially the development of maternal and child health activities in the counties of Maryland, were before Dr. Welch for consideration at the meetings of the State Board of Health. In 1914 a crucial bill to establish ten sanitary districts in the state, each under a deputy state health officer, a program that now gives each of Maryland's 23 counties its own health department and full-time health officer, ran into some heavy opposition in the legislature at Annapolis. The old problems of local pride, of the State Health Department getting too rich, too strong and too expensive were in back of the opposition. A committee hearing was set and the State Board of Health members were invited to be present. Dr. Ford describes this dramatic episode and Dr. Welch's relation to it because it was characteristic of the many episodes in the great physician's life:

"Dr. Welch was absent from Baltimore at the time this hearing was granted. He happened to return on a night train which arrived about eight o'clock in the morning on the day of the hearing. He was informed by a member of the Board that the situation in regard to the bill was critical and hurried to Annapolis without breakfast to meet the members of the committee, which had already assembled. Surprised to see Dr. Welch so much concerned about the passage of the bill, the committee adjourned until twelve o'clock to permit Dr. Welch to get breakfast and recuperate a little from his trip. At twelve o'clock, every member of the committee and nearly every member of the Board of Health was in attendance to hear Dr. Welch make a clear, forceful, almost impassioned address in which he pointed out the deplorable sanitary conditions in the rural districts of Maryland, the acute need of supervision in health matters, the determination of the Board of Health not to interfere with local officials but to work hand-in-hand with them, and the preservation of health and saving of life which were certain to follow the enactment of the bill. So convincing was Dr. Welch on this occasion and so powerful were the arguments he presented that the joint committee of the legislature was convinced of the desirability of the legislation and a favorable report was agreed on unanimously. The bill was finally passed by the House and Senate in the closing days of the session. If Dr. Welch had not hurried to Annapolis to appear before the joint committee the Deputy State Health Officer's Bill would certainly not have been passed by the legislature of 1914, and might have never been enacted."

In public health, as in medical education and in scientific medicine, Welch played his part on a national and international stage. He attended the meetings of the American Public Health Association

and organized its Laboratory Section. He fought side by side with Osler against typhoid fever and tuberculosis.

In Ford's record it is clear that Welch was always keenly interested in the public health situation in Baltimore City and lent his constant support for its improvement. He took a leading part in the campaign to rid the city water of its typhoid, and with chlorination begun in 1911 the typhoid that year was cut in half as compared with earlier yearly records, and the filtration plant was started at this time.

Now the milk-borne typhoid became apparent when formerly it had been hidden in the mass of water-borne typhoid, and so, over a number of years, working with the Women's Civic League, Welch drove forward until a modern and adequate city milk ordinance was enacted by the City Council in 1917. I can remember Dr. Welch going to public meetings, of which I attended one at the downtown City Club, made up of business leaders, where Dr. Welch forcefully supported the campaign that led to the enactment of this ordinance; and, as a result, typhoid fever has practically disappeared from our city.

From his earliest days in Baltimore until his last, Welch was in touch with the Baltimore City Health Department. There were difficult times prior to 1909 when there was no communicable disease hospital, and it was he chiefly who brought about the creation of Sydenham Hospital, first in a small way at Bayview to the east of the city, and later in 1924 a modern adequate Sydenham Hospital was built at Lake Montebello beside the city water filtration plant.

Since 1900 there has been no board of health in Baltimore, but through the years Welch befriended and assisted Dr. C. Hampson Jones who was, off and on for a period of thirty-six years, the Commissioner or Acting Commissioner of Health in our city until his death at the age of seventy-three in 1932. During the next two years Welch was a tower of strength and assistance to Dr. Jones' successor and helped him in the organization of a body known as the Consultants to the Baltimore City Health Department, a group of roughly thirteen leading physicians representative of the two medical schools in the city, the State Department of Health, the Johns Hopkins School of Hygiene and Public Health and the Maryland Tuberculosis Association. This body has served as the intermediary between the Commissioner of Health and the Mayor and the Board of Estimates on important occasions when added appropriations were imperative and wise guidance on policies was needed. As Ford says: "When opportunity to do active work in the field of public health presented itself, Dr. Welch accepted it as a duty."

It was only natural that President Herbert Hoover at the national celebration of Welch's eightieth birthday in Washington in 1930 would say "Dr. Welch is our greatest statesman in the field of public health, and his public service to the nation well warrants our appreciation of him."

In spite of the length of my remarks I cannot resist a temptation to close with a tribute written to Dr. Welch by Dr. Harvey Cushing as it appeared in the program for the Washington ceremonies and the volume describing them:

"William Henry Welch

"To have stepped, in the prime of life, into a position of acknowledged intellectual leadership in the profession of his choice; to have occupied that position, albeit unconsciously, for those forty years which have seen the most rapid strides in medical progress of all time; to have had such influence in the furtherance of the medical sciences in this country as to turn the tide of students seeking opportunities for higher education from the Old World to the New; to have been as ready in countless unrecorded ways to share his time and thought with those who were inconspicuous as with those who sat in high places; to have been no less universally respected for his great learning than beloved for his personal charm and companionability; to have stood knee-deep in honours unsought and to have remained seemingly unaware of them; to have rounded out with distinction two successive university positions and, with enthusiasm undimmed, to be now well launched on a third which he is no less certain to adorn—to have done so much, in so many ways, for so many years, and to have aroused no shadow of envy or enmity on the way, betokens not only unselfishness of purpose but that fineness of character which always has been and always will be an inspiration to mankind."

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New Books.

Below are listed some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be borrowed under usual library rules.

Advances in cancer research. Vol. 1, 1953.
Bach—The metabolism of protein constituents in the mammalian body. 1952.
Bauman—Diagnosis of pancreatic disease. 1949.
Gould—Pathology of the heart. 1953.
Haymaker—The founders of neurology. 1953.
Hurxthal & Musulin—Clinical endocrinology. 2v. 1953.
Lemert—Social pathology. 1951.
Morison—Foetal and neonatal pathology. 1952.
Nutrition symposium series. Nos. 3-6, 1951-1953.
Pappenheimer, ed.—The nature and significance of antibody response. 1953.
Sharpe—Brain surgeon. 1953.
Smith & Wermer, eds.—Modern treatment. 1953.
Strecker—Basic psychiatry. 1952.
Tobias—Essentials of dermatology. 4th ed. 1952.

AMA Survey on Hospital Service in U. S.

For the first time in history, hospital births topped the three million mark. The Council on Medical Education and Hospitals' 32nd presentation of hospital statistics reveals that in 1952 there were 3,170,495 hospital births or one live baby born every 9.9 seconds. The report, which appears in the "Hospital Number" of the Journal of the AMA, May 9, shows a continued increase in the volume of hospital service in the United States.

Highlights of the report: 6,665 hospitals registered—with 18,914,847 admissions, compared with 18,237,118 the previous year. Bed capacity statistics show an increase of 11,627 over 1951. Average length of stay of individual patients in governmental general hospitals is more than twice as long as in nongovernmental general hospitals—16.4 days as compared with 7.5 days.

DUODENAL DIVERTICULA*

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The purpose of this paper is to present a review of our experiences with duodenal diverticula. This pathological entity presents to the physician a challenge as to which course of treatment to follow once the diagnosis is made. Surgeons at times have been disappointed with the results because of the persistence of the gastrointestinal symptoms following operation. Internists, too, have often found medical treatment to be inadequate.

The duodenum is subject to the same factors which predispose to the production of diverticula elsewhere in the digestive tract, and also has special problems of its own because of its anatomy, such as the intimate relationship with the common and pancreatic duct and head of the pancreas. It would appear that the sudden propulsion of the gastric contents against the duodenal wall, the increase in intraluminal pressure caused by the closure of the pylorus the narrowing at the angulation, and the fact that the third portion is the narrowest would have a bearing on the fact that the majority of the diverticula occur in the second, or descending portion of the duodenum.

In reviewing the cases of duodenal diverticula at St. Elizabeth's Hospital during the past ten years, it was noted that, of a total of 43 cases, only 12 revealed no other associated pathology. The greater number of diverticula occurred on the concave side of the descending portion of the duodenum, the majority being false diverticula. The incidence of diverticula occurring in each portion of the duodenum is as follows: in the ascending portion, 12 cases; in the descending portion, 20; in the transverse portion, 3; in the terminal portion, 1; between the ascending and descending portions, 3; between the descending and transverse portions, 1; and between the transverse and terminal portions, 3. The distribution between males and females was approximately equal, with 23 occurrences in the male, and 20 in the female. Of the 12 with no other associated pathology, six were males and six were females, five were operated upon with excision of the diverticula and subsequent improvement. The remaining cases were treated medically since the severity of their symptoms did not warrant surgery, or the patients were not suitable candidates for surgery because of the psychosomatic factor in their make-up. The remaining 31 had associated duodenal ulcer, cholecystitis; cholelithiasis, diverticula of the colon, and/or other pathology of the gastrointestinal tract. In one of these cases with duodenal diverticula and duodenal ulcer, the diagnosis of the diverticulum was felt to be the major, and not the incidental finding and the patient was operated upon with excision of the diverticula and vagotomy. There was subsequent relief of symptomatology.

The question which arises in the mind of the attending physician after careful evaluation of the symptoms is whether the patient should be placed under medical or surgical treatment. However, the question should be: is surgery justifiable because of the severity of the patient's symptoms.

Perforation of a diverticulum may occur in the course of conservative treatment, but, according to Byerly, this is a rare complication since only six authentic cases of perforation of a duodenal diverticulum have been reported in the American and British literature through March, 1949. We can thus be assured that the medical treatment, even with poor results would be less discouraging than subjecting the patient to an operative procedure which might not give the patient relief from his symptoms. In spite of the fact that perforation of the diverticulum is rare, clinicians should be cognizant of this possibility and the surgeon should not overlook this diagnosis in the face of peritonitis of an undetermined origin.

In order that the discussion of this condition may be more complete, a review of the anatomy of the duodenum is given so that the weak areas of the duodenum which tend to result in diverticula will be noted. In addition, this will demonstrate the best surgical approach for mobilizing the duodenum and locating the diverticula.

The caliber of the duodenum is greater than that of the jejunum, but is not uniform throughout. The duodenum may be divided into four main portions for purposes of identification. The first, or ascend-

*Read before The Richmond Academy of Medicine, January, 1951.

ing portion is approximately 5 cms. long and is completely movable, more so than any other portion of the duodenum. It passes upward and backward from the pyloric end of the stomach and narrows at the superior angle. It is completely surrounded with peritoneum. As it turns to the right again, the surrounding peritoneum forms the free border of the gastrohepatic omentum. The second, or descending portion, is about 7 cms. in length and extends from the neck of the gall bladder to the level of the third lumbar vertebra. At this level there is a distinct angle similar to that at the superior angle (Fig. 1).



Fig. 1. Wax cast of the duodenum showing the superior and inferior angles. Redrawn from Kellogg

This portion is concave and is covered with peritoneum and the ascending layer of the transverse mesocolon on its anterior surface except where the transverse colon passes in front of it. In the concavity formed, this portion is adherent to the head of the pancreas by connective tissue and is penetrated by common duct and the pancreatic duct, as well as the superior and inferior pancreaticoduodenal arteries. The common duct follows the concave border and enters the duodenum. The pancreatic duct enters at a right angle a little below the middle of the second portion of the duodenum. The third, or transverse portion, is the largest and narrowest, measuring about 12 cms. in length. It ascends toward the left beneath the superior mesenteric vessels and crosses the middle to the left lumbar vertebra where it contracts to form the isthmus of the duodenum. Here it is compressed between the mesenteric vessels anteriorly and the aorta and vertebral column posteriorly. The fourth, or terminal, portion is about 2.5 cms. long and enters at the level of the upper border of the second lumbar vertebra where it turns forward abruptly to become the duodenojejunal flexure.

The symptoms of a patient suffering from duodenal diverticula run the gamut of gastrointestinal symptoms from vague abdominal discomfort to severe pain. The symptoms most often encountered are those referable either to the biliary tract or are suggestive of a duodenal ulcer, the biliary symptoms being most frequent. The predominant symptom is pain above and to the right of the umbilicus.

The usual history given is that of intermittent attacks of pain related to the taking of food, and the discomfort and/or pain occurring a few hours after eating. The patient may also have headache, nausea, distention, water brash, vomiting, and other symptoms suggestive of biliary dyskinesia. This symptom pattern, referable to the biliary tract, may be explained by the greatest frequency of the diverticulum being in the same segment as the biliary tract, and they cannot always be differentiated. The epigastric pain and discomfort with the prime physical finding of tenderness over the Mayo-Robson point are the most consistent landmarks. Pressure over the diverticulum may cause pain to radiate posteriorly to the back and/or below the costovertebral angle.

Positive diagnosis is made only by the roentgenogram and only when one's suspicions are so confirmed is one justified in making a diagnosis of duodenal diverticulum.

The criteria we use for surgical intervention, once the diagnosis is established, are:

1. Symptoms referable to duodenal diverticula which are persistent and not amenable to conservative therapy (after proper medical evaluation).
2. Retention of barium in a diverticulum for four hours or longer.
3. The presence of diverticula that are 3 cms. in diameter or larger.
4. Bezoars of the diverticulum.

At operation an upper right rectus incision is used to open the abdomen. If the diverticulum is in the ascending or descending portion of the duodenum,

this portion is mobilized after the method of Kocher (Figs. 2 and 3). However, if the diverticulum is in the transverse portion, the duodenum is mobilized and exposure made after the method of Vautrin and Fourche (Figs. 4 and 5). Another approach is



Fig. 2. Mobilization of the descending portion of the duodenum after the method of Kocher. Redrawn from Kellogg

through the transverse mesocolon and the posterior peritoneum (Fig. 6).

We believe that excision of a diverticulum is the best method, although one may be forced to invaginate the diverticulum if excision would compromise the patency of the ampulla of Vater. When the diverticulum is to be excised and has a wide base, it is best to do so by an open operation and to inspect the lumen of the duodenum. Careful closure with two layers of fine chromic catgut gives excellent results with minimal incidence of duodenal fistula or obstruction. If there is only a small pedicle to the diverticulum, a close suture technic is satisfactory after doubly clamping the pedicle and excising the diverticulum.

Two illustrative cases are presented which seem to have been improved following surgery.

Case 1. Duodenal diverticula between the ascending and descending portions of the duodenum with phytobezoar of the diverticulum. Mrs. L. R., 62 years old, was admitted to St. Elizabeth's Hospital with the chief complaint of being "unable to get her food down" for approximately ten years. She stated that the food went part of the way, stopped, and came back. Prior to her admission, she had noticed that the condition had become progressively worse and she was regurgitating more and more of her food. In spite of this she had had no weight loss. Ten years prior to the present illness she had had a cholecystectomy for cholecystitis and cholelithiasis and she dated her symptomatology from the time of that operation. A complete gastrointestinal series was done, which showed only slight retention of the gastric contents, but between the ascending and descending portions of the duodenum a large diverticulum several cm. in diameter was noted. The diverticulum filled along the periphery but not in the center (Fig. 7). Six hours after the ingestion of barium there was some retention of the barium meal in the stomach and a marked density of the central portion of the diverticulum. The physical examination was essentially negative. The patient was advised to have the diverticulum excised. At operation the usual approach was made, the duodenum was exposed, and the adhesions present from

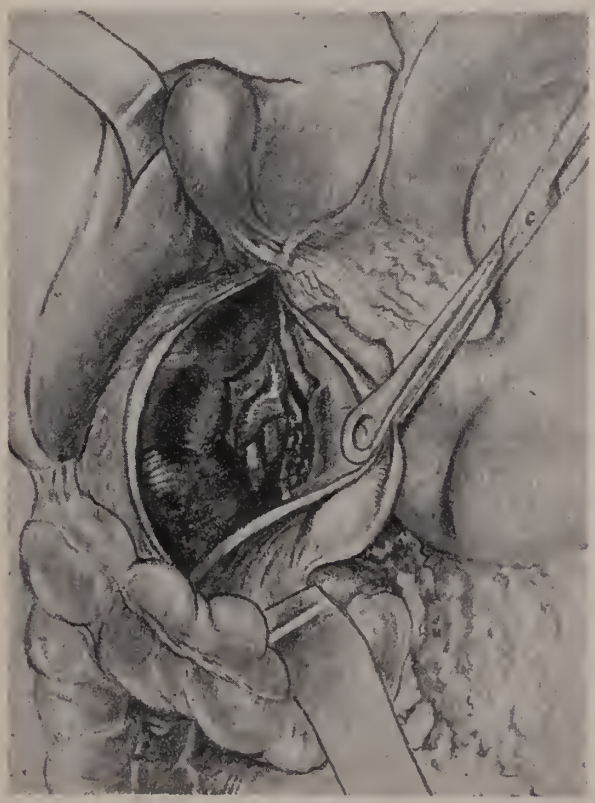


Fig. 3. Mobilization of the descending portion of the duodenum after the method of Kocher. Redrawn from Kellogg

previous surgery which bound down the duodenum to the under surface of the liver were separated. The duodenum was then turned medially and a large diverticulum was found between the ascending and descending portions on the posterior surface of the



Fig. 4. Exposure of the transverse duodenum after the method of Vautrin and Fourche. Redrawn from Kellogg

duodenum. The diverticulum was opened and excised. On placing the finger inside the duodenum it was found that the diverticulum was of the pantaloon type, there being one diverticulum below the entrance of the common duct and another above the entrance of the common duct. The common duct thus opened directly between the two diverticula. A large amount of foreign material was found in the superior diverticulum and, when removed, appeared to be vegetable material or phytobezoar. A small probe was placed through the ampulla of Vater so that the sutures would not encroach on the lumen. The diverticulum was resected and the duodenum then closed with two rows of continuous chromic catgut sutures. This seemed to give satisfactory closure without blocking the common duct. A drain was placed down to the region of the common duct and brought out through a stab wound. The specimen consisted of a diverticulum measuring 3 x 2½ cms. which contained a phytobezoar measuring 2½ x 2 cms. Follow-up for six months revealed this patient to be improved and free of her symptomatology, and there has been no recurrence of her symptoms.

Case 2. Diverticulum of the descending portion of the duodenum. Mr. R. E. B., 61 years old, was admitted with the chief complaint of pain in the upper abdomen. One week prior to admission he had suffered from severe nausea and vomiting. He was seen by his local physician, prior to his admission, who advised a gastrointestinal series. This showed a large diverticulum in the descending portion of the duodenum. Examination showed the patient to be under-weight. There was a slight tenderness in the upper right quadrant of the abdomen, as well as a right and left inguinal hernia. A review of the roentgenograms showed a shadow overlying the descending portion of the duodenum. When the barium reached this point it filled out the shadow and the shadow measured 3 x 7 cm. (Fig. 8). There was no obstruction to the passage of the meal at that point and the rest of the duodenum appeared normal. Three hours later barium was noted in the diverticulum (Fig. 9). This patient was operated upon, the abdomen being opened in



Fig. 5. Exposure of the transverse duodenum after the method of Vautrin and Fourche. Redrawn from Kellogg

the usual manner and the duodenum mobilized medially. A large diverticulum was found arising in the posterior portion of the descending duodenum

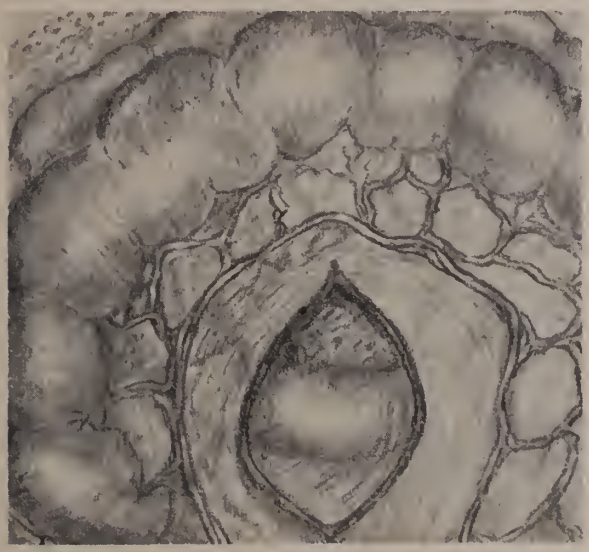


Fig. 6. Exposure of the transverse duodenum through the transverse mesocolon.

from a rather small stalk. The base of the diverticulum was doubly clamped and divided and the stump was sutured with chromic catgut. It was re-



Fig. 8. Case 2. The large duodenal diverticulum is shown.



Fig. 7. Case 1. The diverticulum is shown and contains both barium and food.



Fig. 9. Case 2. Six hours examination showing diverticulum still filled with barium.

inforced with a row of interrupted chromic catgut. The raw surfaces were reperitonealized and the abdomen was closed in the usual manner. The specimen consisted of a large duodenal diverticulum measuring 6 x 5 x 2 cm. and containing food particles, namely, fruit peels, corn, and other partially digested food. Follow-up for eleven months revealed the patient to have made an uneventful recovery and to be free from his symptomatology.

SUMMARY AND CONCLUSIONS

A review of the experiences at St. Elizabeth's Hospital with duodenal diverticula is presented. The anatomy, surgical indication, and operative technic are given. Two cases are reported which were improved by surgical excision of the diverticula. Of the forty-three cases reviewed, only five required surgery for the relief of symptoms.

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617 West Grace Street.

Factbook on Medical Education.

Current statistics on medical education in the United States have been compiled in a convenient pocket-sized booklet for handy reference to be distributed early in April by the American Medical Association. Information contained in the "Factbook on Medical Education" is based on a report made by the Council on Medical Education and Hospitals during the academic year 1951-52. Written in an easy question-and-answer style, the new booklet gives information on enrollments, financial support, faculty and new medical schools. The booklet will be distributed to state and county medical society officers, AMA delegates and officers, newspaper and magazine writers, and allied health organizations. Additional copies will be available for distribution by state and county medical societies.

Former Medical Officers Surveyed.

In analyzing 467 questionnaires returned by former armed forces medical officers, the Council on National Emergency Medical Service has extracted pertinent data on percentage of time spent in treatment of military personnel and their dependents, staffing conditions and the number of physicians willing to remain in service.

The survey of former army, navy and air force physicians shows:

(1) *Percentage of time:* Between 44% and 54% of total overseas time was spent in treatment of military personnel and between 39% and 53% of total domestic time. Treatment of dependents took between 19% and 28% of overseas time and between 25% and 44% of domestic time.

(2) *Staffing conditions:* Overstaffing—136 replies—ranged from 15% to 44%. Understaffing—79 replies—ranged from 15% to 28%. Adequate—227 replies—ranged from 42% to 58%.

(3) *Willing to stay in service:* 214 replied yes; 236 no.

RESECTION RECONSTRUCTION OF THE FEMORAL HEAD*

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During the last 18 months 19 operations have been performed in the University of Virginia Hospital or in the Western State Hospital for reconstruction of the femoral head in cases of osteoarthritis and fracture of the femoral neck.

Resection Reconstruction of Femoral Head		
Osteo Arthritis	9 cases	(no mental patients)
Acute Fracture	7 cases	(4 mental patients)
Old Fracture	4 cases	(2 mental patients)

Owing to the small number of cases we are not in a position to recommend any of the following procedures with any degree of certainty but this report of our experiences, successes, and failures may be of interest.

We have done 8 operations for osteoarthritis of the hip and in this group we have gotten our best results. We have followed the technique described by Robert and Jean Judet, although in some of these cases we used a vitallium prosthesis rather than acrylic resin as described by Judet. We used an anterior approach to the hip joint, the incision extending from the anterior superior iliac spine vertically down the thigh for approximately 6 inches. We approached the capsule of the joint lateral to the rectus femoris and sometimes found it necessary to divide the reflected head of rectus femoris and in some cases we divided part of the belly of the tensor fasciae femoris. We used a cruciate incision in the capsule of the joint, making the vertical cut as near to the acetabular rim as possible with the horizontal cut in the line of the neck of the femur.

We found it easier in most cases to osteotomize the head of the femur just proximal to the junction of the head with the neck rather than trying to dislocate the head of the femur from the acetabulum. The head of the femur is then removed using the special appliance described by Judet, after dividing the ligamentum teres. It is important to maintain full length of the femur in order to prevent shortening of the limb with subsequent lip. We found it necessary to reem the acetabulum only in those cases where it was extremely rough or where the superior surface of the acetabulum was not horizontal. After applying the prosthesis to the neck of the femur, after the manner described by Judet, the new head was then rearticulated in the hip joint and the capsule repaired. We believe that it is important that the new prosthesis should fit the acetabulum snugly. If it is too small, an area of sclerosis is liable to develop in the upper part of the acetabulum which bears most of the weight.

Post-operatively we found it necessary to treat the patients in internal rotation and this we did in most cases using a modified Russell's traction with an internal rotating bandage around the knee. We found this more satisfactory than trying to use a plaster cast with a bar to keep the leg in internal rotation. When we used this method we found that if the patients turned over in bed they were liable to get stuck even in external rotation.

Occasionally, while doing this operation, it is difficult to judge the exact angle at which to drive in the prosthesis and when this difficulty is encountered we have used a guide wire applied to the neck of the femur followed by an x-ray to ascertain its exact position. The guide wire may then be removed and the prosthesis put in a comparable position.

During the operation it is necessary to avoid damaging the lateral cutaneous nerve of the thigh and the nerve to vastus lateralis which crosses the incision in its lower part.

We have done some cases for acute fracture of the femoral neck, in very disturbed mental patients at the Western State Hospital. These patients were so disturbed that any form of post-operative treatment would have been extremely difficult to arrange, and it was thought that a Judet type of arthroplasty might give the best chances of a reasonably good result.

One case was done for a subcapital fracture of the neck of the femur of the vertical type, and one was done for a badly comminuted fracture of the femoral head. And still another case was done for a fracture of the neck of the femur after Smith-Petersen nailing had failed. Generally speaking, we believe

*Read before the annual meeting of The Medical Society of Virginia, in Richmond, September 28—October 1, 1952.



X-Ray No. 1. Avascular necrosis of femoral head following fracture of the femoral neck. Replacement of the femoral head with an acrylic resin prosthesis. The neck is reinforced with a stainless steel bar and this is the only part of the prosthesis which shows in x-rays.

it may be that the operation should, at this time, be reserved for the elder patients, as we do not know how these hips will do after many years of use.

Some of these operations for acute fracture of the neck of the femur show considerable new bone formation in the region of the superior part of the acetabulum after the operation and we wonder whether possibly this operation should be reserved for those cases of fracture of the neck of the femur with non-union established.

In some of our more disturbed patients we got fairly good results in spite of the fact that the patient got up and walked about on the prosthesis the day after the operation. Dr. Stinchfield recommends the use of oxycellouse to prevent bone formation in the region of the hip joint and we believe it may be of advantage to use cortisone post-operatively in order to prevent new bone formation but we think this should not be given for 10 days in order to allow the soft tissues to heal.

In cases of ununited fracture of the femoral neck with absorption of the neck we believe it will be



X-Ray No. 2. Fracture dislocation of the femoral head with fragmentation. After replacement of the femoral head with an acrylic resin prosthesis considerable adventitious bone developed in the region of the capsule limiting movement, and causing pain.

better to use a prosthesis which has a neck attached so as to give the correct length to the neck of the femur. This we have not done but we mean to try it in the future. In two of these cases we have used a prosthesis made in the hospital from acryllic resin, and a Smith-Petersen type of 3 phalanged nail, the nail being inserted down the shaft of the femur. One case was done on a mental patient, but, unfortunately, owing to her picking at the wound she developed sepsis in the region of the nail and the whole prosthesis had to be removed. In the second case an old colored man was treated in the same way with gratifying results. In one case we were confronted with a post-operative dislocation of the hip. This was due to the fact that a lateral incision was made and the greater trochanter removed with an osteotome. The trochanter was not subsequently firmly fixed to the femur and displaced upwards. This case needed a second operation to replace the dislocation and repair the greater tuberosity to the femur. She was subsequently treated in a hip spika plaster, and has made fairly good progress since that time. We have endeavored in these cases to obtain stability of the hip rather than a great degree of movement but it is possible with a new form of prosthesis, which is now available, that greater movement may be obtained.

I believe for this operation to be a success the

most essential factor is complete cooperation of the patient, for in those patients who are incapable of performing post-operative exercises or who have become so used to having a crippled hip that they are not capable of rehabilitation the results will be poor.

The acetabulum should not be reemed unless it is so distorted that the prosthesis will not fit accurately. It is our feeling at this time that osteophytes in the region of the acetabulum should be left alone unless very large. Their removal may predispose to the formation of adventitious bone around the capsule of the joint which is the main single reason for those bad results which have occurred in our series.

Results

In assessing our results we have given patients marks between 0 and 6 for pain, movement, and ability to walk, those with much pain getting 0, those with none getting 6 and so on and the results are set out in the accompanying tables.

Osteo Arthritis

	Pain	Movement	Walk	Total
1. Mrs. W. J.	4	4	2	10
2. Mrs. T. V.	2	3	2	7
3. Mrs. C. W. A.	6	6	3	15*
4. Mr. W. A. C.	6	4	2	12
5. Mr. M. O. B.	6	4	5	15
6. Miss M. E. W.	3	2	2	7
7. Mr. G. E. T.	5	4	3	12
8. Mr. J. A.	3	0	3	6
9. Mrs. R. S. P.	2	0	1	3

Acute Fracture of Femoral Head

	Pain	Movement	Walk	Total
10. Mr. C. P. W.				
11. Mrs. D. C.	3	3	2	8
12. Mr. R. E. I. (m)	6	4	4	14
13. Mrs. J. P.	3	1	2	6
14. Mrs. M. S. D. (m)	2	2	1	5
15. Mrs. M. A. (m)	6	6	0	12
16. Mrs. C. D. (m)	4	3	1	8

(m—mental patient)

Non-union of Fractured Neck of Femur

	Pain	Movement	Walk	Total
17. Mrs. H. W. E. (m)	4	3	2	9
18. Miss E. L. S.	Infected and removed			
19. Mrs. M. B. E. (m)	3	2	2	7
20. Mr. A. C.	4	3	4	11

(m—mental patient)

Summary

	Excellent (Over 14)	Good (9-14)	Poor (5-8)	Failed (Under 5)	Unknown
O. A.	2	3	3	1	0
Ac. Fracture		2	3		
Old Fracture		2	1	1	0

Addendum by Author

*Since this paper was written case #3, Mrs. C. W. A. became infected and eventually the acrylic prosthesis was removed two years after its insertion. We are now using only the metallic prosthesis and have had no other case of severe infection.

Parke, Davis & Company

Has opened a new branch office and manufacturing laboratory in Havana, Cuba, where the firm has had a branch office since 1916. Last month, the firm opened a large manufacturing operation in Buenos Aires, Argentina.

Besides Buenos Aires and Havana, the company has Latin American branches and plants in Rio de Janeiro, Colon (Panama), San Juan, P.R., and Mexico City.

PANCREATITIS*

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Richmond, Virginia

This discussion will concern only the various types of pancreatitis, namely acute hemorrhagic, necrotizing, edematous, and chronic relapsing varieties treated at St. Luke's Hospital during the past four years. Twenty-four cases of this disease were admitted to this hospital during the stated time, making pancreatitis occurring once for every 644 admissions. Three case reports will be briefly presented. No tumors will be discussed. All varieties of pancreatitis are included.

Function of the Pancreas. This organ has both an external and an internal secretion. The external secretion comes from the acinar cells which produce pancreatic juice and is emptied into the duodenum from the ampulla of Vater. Its pH varies from 7.1 to 8.2. The pancreatic juice flow varies from time to time and is stimulated by the flow of acid chyme from the stomach into the duodenum, and by stimulation of the vagus nerves. The digestive factors in the juice are trypsin, lipase and amylase which digest proteins, fats and carbohydrates, respectively. The internal secretion is insulin.

Etiology. Most authors think that associated biliary tract disease and alcoholism are the chief causative factors. Any condition which causes obstruction to the pancreatic ducts, or which causes reflux of bile up the pancreatic tree can cause pancreatitis. Thus, spasm of the sphincter of Oddi, stone in the ampulla of Vater, sudden forceful contraction of the gall bladder, or any other obstruction of the pancreatic ducts are all etiologic agents.

Injuries, sometimes of a trivial nature, can occasionally be a cause of pancreatitis, either mild or severe. Injuries to the pancreas are most common during gastric surgery, but can occur during any type of abdominal surgery.[1]

Pathology. The escape of pancreatic juice into the interstitial tissue through the acinar cells as a result of obstruction may cause edema, fat necrosis, or vascular necrosis with hemorrhage, the severity depending on the amount of pancreatic juice which has escaped. Thus we can understand that all the varieties of pancreatitis are essentially the same, varying only in the concentration and activity of the lipolytic and proteolytic ferments which have escaped from the ducts. The pathology of chronic pancreatitis is only the end-result of an acute process showing an increase in the fibrous connective tissue, and sometimes calcification.

The drainage from a sloughing or necrotizing pancreas is typical and is little mentioned in the literature. Whenever one sees small black particles resembling ground black pepper in the drainage material, it is almost diagnostic of acute or sub-acute pancreatitis which is sloughing. All cases reported here which had drainage presented these same characteristic black particles.

Clinical Features. The severity of the symptoms varies with the type of pancreatitis and the severity of the disease. However, there are certain features common to the several types. The onset is usually sudden with pain in the upper abdomen, frequently radiating to the mid-back, and with tenderness over the upper abdomen along the course of the pancreas and occasionally in the left costophrenic angle. Vomiting is usually present. In those cases of extensive necrosis or hemorrhage, the picture of shock can be added. These patients are critically ill and may die within a few hours unless adequate treatment is administered promptly. On the other side of the picture are those mild cases who are never seriously ill and who apparently get well spontaneously, or merely with starvation and observation. The clinical picture of chronic relapsing pancreatitis is of recurrent episodes of those findings mentioned above which are common to all types of pancreatitis. To these are added more signs of pancreatic damage such as diabetes, undigested fat in the stools, and a chronically ill patient with progressive weight loss.

Diagnosis. Though the disease may frequently be suspected, the fact remains that there are only three ways of making a positive diagnosis of pancreatitis. The first and most important, though not completely accurate, method is by finding an elevation of the serum amylase or serum lipase which results from occlusion or rupture of the duct system. It is usually thought that when the serum amylase determination

*Read before the annual meeting of The Medical Society of Virginia, in Richmond, September 28—October 1, 1952.

is found to be about twice normal, then pancreatitis is probably present. Unfortunately, the amylase does not always become elevated even in cases of severe pancreatitis, as illustrated in the cases to be reported. A high serum amylase determination is of immense diagnostic value, while a normal finding may mean nothing. Unfortunately, there are other causes of an elevated serum amylase, such as renal retention, perforation of the duodenum, obstructive lesions of the salivary ducts, suppurative salivary adenitis, cancer of the pancreas and acute biliary tract disease. Since there are so many other conditions that cause a serum amylase elevation we cannot completely rely on this laboratory procedure as a certain diagnostic test. We, therefore, consider a twice normal serum amylase determination to be highly suggestive of acute pancreatitis, provided the above mentioned disease entities can be eliminated. The higher the amylase determination, the more positive one can be of the diagnosis of pancreatitis.

The second way of positively making a diagnosis is by operation and finding evidence of fat necrosis and/or enlargement and abnormal pancreas.

The third method is by finding evidence of calculi or calcification in the pancreas by x-ray. This is most helpful in the chronic relapsing variety.

The differential diagnosis is mainly between a perforated or a perforating peptic ulcer, acute cholecystitis, acute gastritis, and acute diverticulitis, though many other diseases can be confusing. It is difficult at times to differentiate between biliary tract disease and acute pancreatitis since a normal gall bladder may not fill or be visualized by the Graham-Cole test during an episode of acute pancreatitis, only to appear normal by this test a few days or weeks later.[2]

Laboratory Findings. As previously mentioned, an elevated serum amylase is most important. There is often a high leucocytosis, with a marked shift to the left. Calcium determinations are of no value in early diagnosis. Hypocalcemia only occurs late in the disease. Hyperglycemia occurs if there is an associated diabetes. The urine will show lipolytic or proteolytic substances, and sugar, if diabetes is present. Profound electrocardiographic changes may occur, thus simulating acute coronary disease, but this returns rapidly to normal as improvement is noted in the progress of the pancreatitis. Albuminuria has not been constant.[3]

Treatment of Acute Pancreatitis. When the diagnosis has been established by finding an elevated serum amylase and by excluding other conditions of the upper abdomen, the first therapy should be directed towards the correction of hemoconcentration and electrolyte imbalance by the administration of plasma, blood, and salt solution. Pain should be relieved by demerol in large doses. In those severe cases where the pain cannot be relieved, a sympathetic novocain nerve block is of real value, and can be repeated at will. The stomach should be kept empty either by constant suction and/or by complete starvation. This is of real importance, both because of severe vomiting which is usually present, and also because food and acid passing from the stomach into the duodenum cause increased flow of the pancreatic juices in ducts which are already obstructed. Banthine is of real value at times by decreasing the pancreatic activity. Diabetes should be looked for and treated if present. Surgery should be reserved for those patients who show evidence of jaundice, and for those who develop acute suppurative processes and other complications. Those cases who present more of the clinical features and findings of acute gall bladder disease, such as acute tenderness and possibly a mass in the gall bladder area, should be operated upon promptly in spite of an elevated serum amylase, because the acute pancreatitis is probably caused by the biliary tract disease and removal of the cause should be prompt. When the diagnosis is uncertain and the serum amylase is normal, exploration is at times necessary and important. When this is necessary, the gall bladder should be drained if it is distended. Should the gall bladder and common duct appear normal, I have not done a cholecystostomy, but have merely placed drains to the region of the pancreas.

Rush and Cliffton[4] have shown that an elevation of proteolytic activity in the serum of dogs appears to be a principal factor in the initial shock of acute pancreatitis. They also showed that a substance called SBI, derived from soy beans, which is an antiproteolytic substance, is capable of specifically counteracting the elevation of the serum proteolytic activity, and may have a considerable potential value in the clinical treatment of acute hemorrhagic and necrotizing pancreatitis. The dosage is at the present time uncertain, and is extremely important, since SBI exerts a powerful anticoagulant effect. Further

experimental work is necessary on the drug before it can be used clinically.

Treatment of Chronic Relapsing Pancreatitis. These patients can rarely be carried for long periods on conservative therapy such as anti-spasmodics, Banthine, etc. Pancreatectomy seems not the procedure of choice, because of the high mortality and morbidity rates. Instead, efforts are directed towards relieving pain and towards decreasing the amount of flow of the pancreatic juices. This is best done by performing a bilateral celiac ganglionectomy. Another method is by unilateral or bilateral lower dorsal sympathectomy, and by vagotomy to decrease the flow of juices. The sympathectomy is done on the side with predominant pain, and, if the patient is not relieved, then the other side is operated upon. Richman and Colp[5] have described three cases completely relieved by subtotal gastric resection and vagotomy, all being made completely symptom free, although one died a few months later from his diabetes. The resections were of the Billroth II type, thus preventing acid chyme from entering the duodenum. In those cases presenting jaundice due to chronic pancreatitis, the free flow of bile into the intestine should be first established. This is done either by anastomosis of the gall bladder to the duodenum, or by sphincterotomy of the sphincter of Oddi and prolonged drainage of the common bile duct, using a long T. tube.

Statistics. Of the twenty-four cases, nine were males and fifteen females. The youngest was twenty-six years and the oldest was seventy-three, with most cases occurring during the fourth and fifth decade. Six cases imbibed freely of alcohol, fourteen would take a social drink, and four used no alcohol. Only one of the twenty-four developed diabetes. Six were of the chronic relapsing variety and eighteen were acute. Of the acute cases, eight were of the severe hemorrhagic or necrotizing types, and ten were of the milder or edematous forms. In the eight proven severe cases, only five had substantial rises of serum amylase. Of these eight cases, all had to be operated upon at one time or another, either to drain a suppurative process, because of obstruction to the GI tract, to correct jaundice, because of an uncertain diagnosis, or because of an accompanying acute cholecystitis and cholelithiasis. Cholecystectomy was done only in the presence of acute cholecystitis. Cholecystostomy was not performed in any case.

Of the six chronic relapsing cases, three have been carried fairly satisfactorily on non-operative management, and three have required operative procedures. Of the operative procedures, one was a bilateral celiac ganglionectomy, vagotomy, and sphincterotomy of the sphincter of Oddi; the second was a sphincterotomy for jaundice; and on the third case a gastroenterostomy and cholecystogastrostomy were done because of duodenal and common duct obstruction. There has been no fatality in any of the cases reported.

CASE REPORTS

Three cases are briefly reported.

Case 1. (J.F.) A forty-seven year old white female was first admitted on February 10, 1950, complaining of a severe pain in the epigastrium, radiating to the upper left quadrant with nausea and anorexia, but no vomiting. She imbibed in alcohol only in an occasional highball. Examination revealed tenderness and fullness in the entire upper abdomen. The admission temperature was 102°. A complete work-up, including GI series, cholecystogram, intravenous pyelogram, and all laboratory procedures, were normal, except for a mild leucocytosis. The serum amylase was forty units. The temperature gradually receded and she left the hospital much improved in two weeks.

She was again admitted on July 15, 1951, with the same complaints and findings as before, though she was much sicker. Again she had a normal serum amylase. After ten days a mass developed in the right abdomen, an abscess with multiple areas of fat necrosis being found, and a sloughing pancreas, which was drained. The pancreas was very large and hard. The gall bladder was not disturbed as it appeared normal. Following this, she developed a right subhepatic abscess which also was drained. It contained similar material to that found in the first abscess. She then improved steadily, the temperature gradually receding from a peak of 105° to normal in three months. She left the hospital four months after admission, still draining particles of pancreatic slough as evidenced by the ground black pepper appearance of the drainage. In January, 1952, the sinus was irrigated with Varidase (Strepto-kinase-Streptodornase) solution and drainage promptly ceased. She has been well ever since and shows no evidence of diabetes. Severe hemoconcen-

tration was present during the early part of her hospitalization, which was treated by fluids, plasma and blood.

This case represents a typical patient with acute necrotizing pancreatitis. It further demonstrates the lack of dependability of a serum amylase determination, since all readings here were within normal limits, in spite of the presence of very extensive disease. The use of Varidase (Strepto-kinase-Streptodornase) solution worked beautifully in the removal of slough or necrotic material.

Case 2. (M.H.A.) A fifty year old white female, and a non-alcoholic, was admitted on November 12, 1951, complaining of severe pain in the upper abdomen, nausea and profuse vomiting. Examination showed a normal temperature in a slightly jaundiced patient with typical findings of an acute cholecystitis and with a palpable and tender gall bladder. There was also acute tenderness along the entire course of the pancreas and to a lesser extent in the left flank. She was quite ill but in no clinical shock. The laboratory revealed a serum amylase of 112 units, a leucocytosis of thirty-two thousand, with ninety-seven per cent polymorphonuclears and a bile index of eighteen units. Surgery, done on the day of admission, revealed a severe acute cholecystitis and cholelithiasis and a marked dilation of the common duct which contained twenty-six cholesterol stones about the size of green peas. After removal of the stones, a catheter was passed with ease into the duodenum. The pancreas was markedly enlarged and hard, and multiple areas of fat necrosis were seen. Her convalescence was normal and she left the hospital in sixteen days. She was well until July 8, 1952, when she was again admitted with acute upper abdominal pain resembling pancreatitis and had a serum amylase of one hundred and thirty units but no elevation of the icteric index. This attack promptly subsided on starvation and Banthine. No diabetes was present.

This case represents acute pancreatitis occurring secondary to acute biliary disease and is the type that we believe should have prompt surgery in spite of a significant rise in the serum amylase. The last attack probably indicates chronic relapsing pancreatitis.

Case 3. (A.F.H.) A thirty-six year old white female was first admitted on November 9, 1951, with severe right-sided abdominal pain and profuse nausea and vomiting. Alcohol was limited to a social drink. Past history revealed repeated similar attacks for three years with multiple hospitalizations and never a positive diagnosis. A complete work up, including GI series, cholecystogram, intravenous pyelograms, and laboratory procedures including a serum amylase, was all normal except for the fact that the radiologist reported tenderness over a retrocecally located appendix containing a fecolith. Operation through a right rectus incision was done, finding everything normal except for a markedly enlarged right half of the pancreas. The gall bladder was normal and only an appendectomy was done.

She went home in three weeks and for a short period was controlled on Banthine. The attacks recurred and she was readmitted on April 2, 1952, with jaundice of one week duration. The only changes noted from the first admission were the jaundice, emaciation (88 pounds), and calcification throughout the entire pancreas. The serum amylase and blood sugar were both normal. Exploration revealed a dilated common bile duct and gall bladder apparently due to spasm or stricture of the sphincter of Oddi. A sphincterotomy, bilateral celiac ganglionectomy, and a vagotomy were done. The long T tube was removed four months later. Since operation she has done well with no further attacks and now weighs one hundred and eighteen pounds.

This case represents a typical chronic relapsing pancreatitis that could no longer be controlled by medical management. Bilateral celiac ganglionectomy is usually sufficient to both relieve the pain, and to diminish pancreatic secretion, but vagotomy was also done in this case because the nerves were so readily available and for fear the ganglionectomy might not have been complete.

Conclusion

In conclusion, the etiology is presumably anything that causes an obstruction of the flow of pancreatic juice, making biliary tract disease the most frequent. The disease occurs almost as frequently in non-alcoholics as in alcoholics. The pathology is basically the same in all the various types of the disease. The diagnosis is made in three ways: (1) by finding an elevation of the serum amylase or lipase and at the same time eliminating other conditions which cause amylase and lipase elevation; (2) by exploration, finding changes in the pancreas or fat necrosis or

both; and (3) by finding calcification in the pancreas by x-ray.

Treatment of the acute cases should be conservative once the diagnosis is firmly established, with therapy being directed towards correction of hemoconcentration and electrolyte imbalance and towards diminishing pancreatic secretion by reducing the amount of acid chyme entering the duodenum. The exception to this conservative program is in those cases with predominantly gall bladder symptoms. Here we believe prompt surgery should be done to remove the cause of the pancreatitis. Surgery is reserved for the complications which may develop, such as acute suppurative processes, jaundice, obstruction of the stomach or duodenum and pseudocysts. Because of the inability to make a positive diagnosis, it is sometimes wise to explore an acute abdomen for fear of missing a perforation of a hollow viscus. In these cases it seems rarely necessary to drain the gall bladder, but this should be done should any distention of the common duct or gall bladder be observed. If the gall bladder is normal, it should be preserved as it may be useful later in correcting an obstructive jaundice. The use of Varidase solution for hastening the evacuation of necrotic tissue from a sloughing pancreas is highly recommended, having been used with excellent results on two cases by the author.

The treatment of chronic pancreatitis is also non-operative as long as the patient can be kept comfortable and free from jaundice. If jaundice develops, a sphincterotomy of the sphincter of Oddi or a cholecystoduodenostomy should be done. Bilateral celia ganglionectomy is advisable in cases of uncontrollable pain. I have had no experience with subtotal gastrectomy, and none with vagotomy and bilateral or unilateral lumbo-dorsal sympathectomy, though both seem logical procedures and good results have been reported elsewhere.

SUMMARY

1. The etiology, pathology, diagnosis, complications, and treatment of the various forms of pancreatitis have been discussed.

2. Twenty-four cases occurring in the past four years have been reported, including three in detail, with no mortality.

3. The ground black pepper appearance in the drainage from an abdominal sinus is probably diagnostic of sloughing or necrotic pancreatic tissue.

4. Non-operative surgery is suggested, reserving surgery for the complications.

5. The use of Varidase (Strepto-kinase-Streptodornase) or some other similar preparation is recommended as an adjunct towards quicker removal of necrotic tissue from chronically draining sinuses of the pancreas.

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Supplement to A.M.A. Film Catalog Now Available.

The A.M.A. Committee on Medical Motion Pictures has announced the publication of a supplement to the list of films available through the motion picture library. This supplement includes 12 motion pictures added to the library since publication of the December 1, 1952 catalog. Copies may be obtained by writing to the committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

GALACTOSEMIA

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Galactosemia (galactose diabetes) is a disorder of carbohydrate metabolism in infancy, characterized by retarded mental and physical development, failure to gain, cataract formation, hepatomegaly, albuminuria, and the presence of the reducing substance, galactose, in the urine. Galactosemia is due to the inability of the body to metabolize properly ingested galactose.

The first case was reported in 1908[1] by Von Reuss, and the first case in American literature appeared in 1935.[4] To 1951 there were only 20 cases in the literature, but the fact that the condition is being reported with more and more frequency would suggest that galactosemia is not as rare as was formerly thought but rather is being recognized more readily. Since the disease is easily cured by elimination of galactose from the diet, the importance of early diagnosis is obvious if life is to be saved, as these patients die of severe malnutrition, secondary infection and cirrhosis of the liver.[19]

The diagnosis is suspected with the onset of the above symptom complex. The onset may occur shortly after birth but the presence of the disease state may not become apparent for several weeks or months after birth. Galactosemia should be suspected in all infants showing marked malnutrition. If hepatomegaly, cataracts, reducing substances in urine, albuminuria, and, occasionally, an enlarged spleen and jaundice are found in patients with malnutrition, certainly one should consider the diagnosis of chronic galactosemia. Elevated blood sugar will usually be found, and this can be proved not to be glucose by yeast fermentation. The galactose tolerance test will be high and prolonged.

Confirmation of the diagnosis depends on finding and identifying galactose in the urine, which is constant and varies in amount with the intake of galactose in the diet.

There are several laboratory tests available which aid in identifying the urinary reducing substance as galactose. Galactose reduces Benedict's reagent but, unlike glucose, it is not readily fermented by yeast. A positive mucic acid test indicates the presence of either lactose or galactose. Bial's test, if positive, indicates the presence of pentose (and sometimes glucuronates), but not galactose. In addition, Tollen's phloroglucinol test is positive for galactose, pentose and glucuronic acid. Thus, galactose is identified in the urine by the following combination: positive copper sulfate reduction, positive mucic acid test, positive Tollen's test, and negative Bial's test.

With removal of galactose-containing foods from the diet (chiefly milk), there is a prompt subsidence of symptoms and resumption of normal growth and development. Cataracts may disappear entirely. Symptoms recur when galactose-containing foods are again added to the diet.

Case Report: The patient, DWM, was admitted to the University of Virginia Hospital on February 20, 1952, at the age of three weeks, with the referring complaint of abdominal swelling and vomiting. He was born in a neighboring hospital, the third child of normal, healthy parents. The siblings were ages six and three years and were well. Pregnancy and delivery were said to have been normal. Birth weight was 9 lb. 5 oz. He had been fed since birth on an evaporated milk formula.

He remained well until about the 6th day of life when he began to vomit. Phenobarbital and a change of formula failed to relieve vomiting and later abdominal distention developed. Both persisted during his 3 weeks' stay there. It was reported to us that several diagnostic procedures were done, which were as follows:

Seven urinalyses showed zero to 3+ albumin, trace to 5% sugar, 3 to 30 WBC, and many coarsely granular casts with each determination. Four white blood counts varied from 6,000 to 20,000 per cubic millimeter. A blood sugar after 4 hours of fasting was 209 mgm./% and after 8 hours of fasting was 189 mgm./%. A blood culture was negative. A chest x-ray obtained on the 13th day of life revealed "increased markings in the left upper lung field" which was interpreted as being diagnostic of atypical pneumonia. Spinal puncture was also performed, the fluid containing only 4 cells and the protein being 32 mgm./%. On the 17th day a gastrointestinal series, done with the hope of determining

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the cause of the abdominal distention, was negative. A flat plate of the abdomen on the 20th day also failed to reveal evidence of obstruction.

Supportive therapy during this time consisted of glucose, saline and protein hydrolysate solutions subcutaneously, two whole blood transfusions of 60 cc. each, multivitamin preparations orally and intramuscularly, and vitamin K intramuscularly. He also received penicillin, terramycin and streptomycin at various times.

As he failed to improve, he was referred to the University of Virginia Hospital and admitted on February 20, 1952. Physical examination on admission revealed a malnourished, severely ill, three weeks' old white male infant. Temperature was 100.6 rectally and respirations were normal. The weight was 9 lbs., 2 oz. The right ear canal was filled with a serous exudate. The chest was clear and the heart was negative. The abdomen was greatly distended, with fullness in the flanks. Shifting dullness was noted on percussion. The liver was enlarged four finger breadths below the right costal margin. The veins of the abdominal wall were distended. There were large ecchymotic areas of the skin over the lateral thighs, the site of subcutanous injections, and over the femoral regions, the site of femoral venipunctures.

The initial laboratory work was as follows: Blood work revealed a 4.1 million RBC, hemoglobin 13 gm. or 84%, WBC 22,000 with a differential of 9 bands, 55 PMN's, 23 small lymphs, 5 transitional monocytes, 8 degenerated cells. Urinalysis was yellow, slightly cloudy, acid reaction, specific gravity unobtainable because of insufficient quantity, slight trace albumin, 4+ sugar, acetone negative, bilirubin 1+, WBC 4-8 per high power field with a few clumps, 0-1 RBC per high power field, many coarsely granular casts and a moderate number of hyaline and rare fine granular and pus cell casts.

Blood urea was 46 mgm.%, CO_2 with 15.4 meq./1, and blood sugar was 223 mgm./%. Blood culture, Wassermann and Kahn were negative. Chest x-ray was negative and flat and upright x-rays of the abdomen revealed no evidence of obstruction.

Shortly after admission a paracentesis was performed and approximately 80 cc. of cloudy, orange-colored fluid was withdrawn. Laboratory report on this fluid was as follows: reaction alkaline, no clot, specific gravity 1.012, serosa mucin test 1+, sugar 177 mg.%, urea 56 mg.%. WBC 25,000, 90% of which were polymorphs and 10% lymphocytes. B. pyocyaneous was cultured.

On admission the infant was placed on an evaporated milk formula. After the above studies were underway, he was started on chloromycetin palmitate because of the peritonitis. The diagnosis of galactose intolerance was considered and efforts were begun to identify the type of reducing substance in the blood and urine. However, the child ran a rapidly downhill course. Vomiting occurred with frequency and feeding was best accomplished by gavage preceded by aspiration of the stomach. Within 24 hours after admission, his legs, back and face had become extremely indurated and oxygen became necessary to prevent cyanosis. On February 21, approximately 36 hours after admission, the child suddenly expired.

On February 29, the following report was received from the laboratory:

February 20—blood glucose: 43 mgm.%
*non-fermentable reducing substance presumably galactose: 206 mgm.%

February 21—blood glucose: 30 mgm.%
*non-fermentable reducing substance presumably galactose: 113 mgm.%
*The normally occurring 25 mgm.% of non-glucose reducing substances have been subtracted

Identification of galactose in urine:
Fermentation—negative
Bial's test—negative
Mucic acid—positive
Tollen's phloroglucinol—positive
Copper reduction at 55°—negative
Quantity of galactose in aliquot of pooled specimens: 1.5 gm./100 cc.

Post-Mortem Report: The body was that of a white, male infant. There was a marked icterus of the skin. The abdomen was markedly protuberant. There were several bluish, discolored patches on both thighs laterally.

Body Cavities: The subcutaneous fat was somewhat harder in consistency than normally. The abdominal cavity contained about 100 cc. of dark yellow and slightly cloudy fluid. Innumerable white patches covered the mesenterium.

Heart and Lungs: Together they weighed 88

grams. The heart appeared normal. There were two small patches of circumscribed infiltration on the surface of the lung which appeared to be abscesses.

Spleen: The spleen was enlarged and weighed 23 grams. It was covered by a fibrous exudate. At 3 points there were circumscribed lesions which appeared to be infarcts.

Liver: The liver weighed 250 grams. It was markedly enlarged, somewhat hard, and jaundiced. It had a dark green color. In the lower part of the hepatic veins there was a thrombus which was thought to be antimortem. Similarly, other thrombi were present in the larger and smaller branches of the hepatic artery.

The gallbladder and gastrointestinal tract appeared normal.

Pancreas: In the head of the pancreas there were two small yellowish spots, each approximately 0.5 cm. in diameter which were thought to represent abscesses. The pancreatic vessels were thrombosed.

The adrenals, kidneys and brain appeared perfectly normal.

The positive *microscopic findings* were as follows:

Liver: There was a very marked biliary cirrhosis. The liver cells showed an extreme fatty degeneration. There was a fair amount of bile pigment in the liver cells and a large amount in the Kupffer cells. On the surface of the liver there was an abscess which seemed to have originated from a septic thrombus. Thromboses were present in the intrahepatic part of the hepatic artery. A marked purulent peritonitis was present in the broad ligament around the umbilical vessels.

Spleen: This showed several large abscesses and most likely septic thrombi.

Pancreas: Peripancreatic abscesses and diffuse pancreatitis were noted.

G-I Tract: There was an extensive peritonitis of the visceral peritoneum and also of the mesentery.

Kidneys: The kidneys showed cloudy swelling in the glomeruli and were congested.

Adrenals: These appeared normal.

Skin: The subcutaneous tissue was thickened and edematous.

Bone marrow and brain: Normal.

Bacteriology: Pseudomanas and E. coli were cultured from the peritoneal fluid.

Summary

1. A brief discussion of chronic galactosemia is presented stressing the importance of early diagnosis.
2. Signs, symptoms and laboratory findings of the disease are outlined.
3. Clinical case with post-mortem report is presented.

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NAPOLEON'S VIEWS ON THE COMPLICATIONS OF CHILDBIRTH*

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With capture by the English Navy staring him in the face, Napoleon threw himself on the mercy of that nation. By this dramatic gesture, the French Emperor hoped to assure for himself a not too onerous imprisonment on some comfortable estate in rural England. However, his realistic captors had other plans for him. They decided that Napoleon must go to the island of St. Helena, far out in the South Atlantic Ocean, from which there could be no easy return, as from Elba. A handful of faithful followers were allowed to accompany the Emperor into his exile. These were the Counts Bertrand, Montholon, Las Cases, and their families, with the Baron Gourgaud and over a dozen servants. However, the French physician, Maingault, who had come with Napoleon from France, refused to follow him to St. Helena. There was no time to get another French physician.

Napoleon then requested that Dr. Barry O'Meara, surgeon of HMS Bellerophon, be assigned as his physician. Apparently the Emperor had taken a liking to O'Meara during the voyage from Rochefort, France, to Torbay, England. O'Meara was a well trained physician, having been educated in Dublin and London. O'Meara spoke Italian, which was Napoleon's mother tongue. In addition, O'Meara was an Irishman. No doubt Bonaparte shrewdly reasoned that since he must have an enemy physician, better an Irishman than an Englishman. France had long intrigued with Irish rebels. Thousands of Irishmen had sought refuge on her soil and had become staunch Frenchmen.

The English authorities were secretly pleased that Napoleon desired an English naval surgeon as his personal physician. They urged O'Meara to accept the position, which he did only on condition he forfeit none of his rights in the English Navy. Dr. O'Meara was frankly intrigued by the opportunity to study this great man at close range. No doubt he hoped to get what we today would call the "inside story" of world-shaking events from the lips of their chief perpetrator. At any rate, O'Meara joined Napoleon's party as his physician and sailed with him on HMS Northumberland, arriving at St. Helena on October 17, 1815, after a voyage of about ten weeks.

To relieve the tedium of exile and to justify himself before the world, Napoleon plunged feverishly into writing his autobiography. He dictated in relays to his companions in exile: Bertrand, Las Cases, Gourgaud and Montholon. When one was exhausted, the other would take his place. Conscious of their historic roles, certain of the companions began to make personal records of their daily life at St. Helena. Not only Bertrand, Gourgaud and Las Cases kept diaries, but two of the servants, Marchand and St. Denis, did likewise. It was inevitable that Dr. O'Meara, with his special interest in Napoleon as a historic character, should also keep a diary. O'Meara began his diary after Napoleon was finally installed at "Longwood," the house prepared for him and his companions.

O'Meara writes: " . . . immediately on retiring from Napoleon's presence, I hurried to my chamber and carefully committed to paper the topics of conversation, with, so far as I could, the exact words used." The physician gives detailed accounts of Napoleon's bickerings with Sir Hudson Lowe, the Governor of St. Helena. He sets down the Emperor's reminiscences of men and events in his career. He reports Bonaparte's ideas about a great variety of subjects including politics, religion, medicine, the dawning machine age, free-masonary, the Irish question, predestination, the English ruling class, and so on. O'Meara's diary, like those of the French companions of the exile, reveals Napoleon's great erudition, the wide range of his interests and the keenness of his mind.

On November 6, 1817, there occurred in England an event which shocked the world and plunged the British Isles into the deepest mourning. The Princess Charlotte, heiress to the throne, died in childbirth. The baby, a boy, was stillborn. The Princess, only twenty-one years old, was highly popular. After a childhood marred by the separation and wrangling

*Read before the Medical Staff, Mary Immaculate Hospital, Newport News, Virginia, March 4, 1953.

of her father, the Prince Regent, and her mother, Princess Caroline of Brunswick, she had been happily married to Prince Leopold.* After an essentially normal pregnancy, the Princess Charlotte went into labor at term, but, due to the inadequacy of the uterine contractions, it took 26 hours for the cervix to dilate. Even then the contractions remained unsatisfactory and the descent of the head was slow. Although the cervix was dilated, the obstetrican in charge, Sir Richard Croft, allowed the Princess to continue in labor an additional 24 hours.



From Masson's *Napoleon at St. Helena*,
Courtesy Medill McBride Co.

During the last five or six hours of this 50 hours of labor, the baby's head was on the floor of the perineum. Nevertheless, Croft waited until the baby was delivered by the Princess' own efforts. The child, a nine-pound boy, had evidently been dead for some hours. About 30 minutes after delivery, the Princess had a hemorrhage and Croft inserted his hand into the uterus and brought the placenta down into the vagina. About one hour after delivery the doctor removed the placenta from the vagina, from which it was protruding. This was followed by some more bleeding. Four hours after delivery of the baby, the Princess died with symptoms of hemorrhagic shock. At autopsy about "a pound of blood was found in the cavity of the uterus."

Sir Richard Croft was a son-in-low of the celebrated London obstetrician, Thomas Denman, who had been noted for his pronounced aversion to forceps. Denman had taught that forceps should not be applied unless the head of the baby had been on the perineum for six hours and all uterine contractions had ceased (Denman's Law). This was tantamount to saying that the uterus must be completely exhausted before the use of forceps could be permitted. Denman had also been opposed to removal of the placenta from the vagina unless one hour had elapsed since its descent from the uterus. This policy he also had applied to the retained placenta, Denman's practice having been merely to separate and bring the placenta down from the uterus into the vagina, leaving its final expulsion to the forces of nature. It can be seen, therefore, that Sir Richard Croft in his management of the labor of Princess Charlotte was merely adhering faithfully to the precepts of his father-in-law, Dr. Thomas Denman, who had been dead only two years.

The storm of criticism and abuse heaped on the unfortunate Croft so unnerved him that three months later he shot himself while attending another patient. The case of the Princess Charlotte has recently (1951) been studied by Sir Eardley Holland† in the light of new documents secured by him from the Croft descendants. Sir Eardley has aptly termed the case "a triple obstetric tragedy"—mother dead, baby dead, obstetrician dead.

Although the death of the Princess Charlotte occurred in November, 1817, the news, because of the slow communications of the time, did not reach St. Helena until February, 1818. O'Meara records in his diary: "Communicated this intelligence to Napoleon, who expressed his affliction at the unfortunate event, as, independent of the feelings which naturally arose at the fate of a princess, cut off in the prime of youth and beauty, and with such

*Leopold of Saxe-Coburg (1790-1865), later Leopold I, King of the Belgians, and uncle of Queen Victoria of England.

†The summary of the Princess Charlotte's case given above has been abstracted from Sir Eardley Holland's extremely interesting and very valuable paper.

prospects before her; he said, that *he had not been without hopes that she would have caused a more liberal policy to be adopted towards himself.*‡ He inveighed against the accoucheurs, and expressed his surprise that the populace had not stoned them to death. He observed that the business had a strange appearance, and that precautions appeared to have been taken to deprive the princess of everything necessary to support and to console her in her first accouchement. He urged that some old married women, who had frequently borne children, ought to have been at her bedside to comfort her. Had they been present, they would have perceived that matters were going on wrong, and would have insisted upon further assistance being rendered. It was unpardonable in the old queen not to have been on the spot. 'What signified Leopold,' said he, 'he is a *garcon* (boy), and knew not what to do.' "

Napoleon then warmed up to his subject and told O'Meara that he himself had once saved his second wife, Marie Louise, from dying in a similar manner during labor. "During the time of her labor, I was in an apartment close by, from whence I went to her room every now and then. After she had been some hours in labor, Dubois, the accoucheur, came to me while I was reclining on the sofa, with great alarm painted on his countenance, and said, 'that the Empress was in a state of great danger, that there was a wrong presentation.' I asked him if he had ever seen anything of the kind before. Dubois replied, 'that he had, but very rarely, perhaps not one in a thousand, and that it was very afflicting to him that so extraordinary a case should happen with the Empress.' 'Forget', said I, 'that she is Empress, and treat her as you would the wife of a little shopkeeper in the Rue St. Denis. This is the only favor I ask of you.' . . . I then accompanied Dubois to the bedside, encouraged and tranquilized the Empress as much as possible, and held her while the forceps were applied. The child was apparently dead when born, but by frictions and other means he was restored to life. His birth produced a delirium of joy in the nation."

In this story we see the workings of a mind which made Napoleon Bonaparte one of the greatest military and administrative geniuses of all time. He analyzes the situation, he decides, and then he acts. Confronted by an obstetrician who is demoralized by the weight of his extraordinary responsibility, Napoleon asks Dr. Dubois whether he has ever encountered the same complication before. Satisfied then of the doctor's ability to handle the case, he tells him, "Forget that she is Empress. Treat her as you would the wife of a little shopkeeper."

Napoleon, a non-medical man, has given us an obstetric maxim which has a universal and a permanent value: *No matter how exalted the social station of the patient, handle her case according to sound obstetric principles.*

‡My italics

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CARCINOMA OF THE PANCREAS— CLINICAL AND LABORATORY OBSERVATIONS IN 29 PROVEN CASES*

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and
KEMP PLUMMER, M.D.,
From the Department of Medicine, The Medical College of Virginia Hospitals, Richmond, Virginia

Carcinoma of the pancreas is now being considered as a cause of abdominal pain.[1,8] In order to define, if possible, other related symptoms and findings in this disease the records of patients with carcinoma of the pancreas admitted to the Medical College of Virginia Hospitals during the past five years have been reviewed. Only those cases with a proven diagnosis have been included.

Analysis:

1. AGE AND SEX IN CARCINOMA OF THE PANCREAS.

21 males—50 to 75 years of age—average 61 years
8 females—50 to 79 years of age—average 67 years
18 white—12 colored.

2. DURATION OF SYMPTOMS (to admission)

1 to 60 months—average 12 months.

The more advanced ages of the patients, and the duration of symptoms which average 12 months from onset until admission to the hospital are obviously not of importance for specific diagnosis, and are seen in most cases of carcinoma from internal organs.

3. DIAGNOSIS:

Biopsy	19
Autopsy	9
Metastasis with mass in pancreas	1

4. PATHOLOGY:

Duct cell	3
Adenocarcinoma	25
Head only	3
Body and tail only	6

Biopsy at operation was the method of diagnosis in twenty cases and autopsy in nine. The majority of the patients had adenocarcinoma and this involved the head, body and tail in most cases. There were only three cases of duct cell carcinoma, while there were twenty-five cases of adenocarcinoma. The head was involved in three cases, and the body and tail in only six; sixteen had involvement of both body and head.

5. PAIN IN CARCINOMA OF PANCREAS

Pain as chief complaint	22
Jaundice with mass	3
Jaundice without mass	2
Mass without jaundice	1
Ascites	1

The most important feature in the diagnosis of carcinoma of the pancreas is the recognition of pain, which may be its only manifestation.[3,8] Of these twenty-nine cases, pain was the chief complaint in twenty-two. Abdominal discomfort was present in the other patients who had mass or ascites. Jaundice, with or without mass, was the presenting complaint in five. Some years ago it was held that carcinoma of the pancreas was painless; other writers have called attention to the fact that approximately 90% of the patients with carcinoma of the pancreas have pain.[2,3,4,5,6,7]

6. LOCATION OF PAIN IN CARCINOMA OF PANCREAS —24 cases.

Abdominal	6
Epigastric & R.U.Q.	6
Epigastric & back	4
Epigastric & R.L. Q.	1
Epigastric & left chest & right flank	1
Lower abdominal	1
Lower abdominal & back	1
Flank, one or both	3
Backache	1

It will be noted that the epigastrium was the location most frequently pointed to, but that the right upper quadrant and back appear frequently, and that the flank and chest may also be the sites of pain.[4] The pain is characteristically worse on lying down

*Read in part before the annual meeting of The Medical Society of Virginia, at Richmond, September 28-October 1, 1952.

—the supine position—and eased to some extent by an upright or sitting position. The pain is usually steady and frequently not uniformly relieved by drugs. Psychiatric features of the disease have been described which appear to be related chiefly to the fact that no cause for the pain is found.[1,9]

7. BOWEL DISTURBANCE IN CARCINOMA OF PANCREAS

Constipation (a change)	7
Nausea and vomiting	3
Hematemesis	1
Melena	2
Not stated	16

Bowel disturbance of some sort appears in the roll of symptoms. Whether constipation here is significant is not known. It probably is a result of anorexia.

8. FINDINGS ON ADMISSION—CARCINOMA OF PANCREAS

Enlargement of liver, mass or ascites without jaundice	5
Jaundice	18
Weight loss with *pain*	6

The physical findings on admission in patients with carcinoma of the pancreas depend upon the time interval and it will be noted that enlargement of the liver, mass or ascites was present without jaundice in five patients, jaundice was present with or without a mass in eighteen, and that in six there was no finding other than that of weight loss, and the patient's complaint of pain. Twenty-six of the twenty-nine patients had weight loss—an average loss of twenty-seven pounds was present when weight was stated. Thrombosis of peripheral venins has been noted frequently in carcinoma of the pancreas and carcinoma of the lung. It is claimed to be due to a diminished production of trypsin.

9. JAUNDICE IN CARCINOMA OF THE PANCREAS

(Admission—Laboratory)

No Jaundice	11
Jaundice	18
Less than 2 mgm. bilirubin	5
Between 2-10 mgm. bilirubin	7
More than 10 mgm. bilirubin	5
Not stated	1

Jaundice in carcinoma of the pancreas is not necessarily severe. More patients were jaundiced than not, but five had serum bilirubin determinations of less than two.

10. X-RAY FINDINGS

Evidence of pressure or irritability	12
Negative barium study	7
No X-ray of G.I. tract	10
Non-functioning gall bladder	6
Normal function gall bladder	3
Calcification of pancreas	1

The X-ray of the gastrointestinal tract and cholecystogram are important for the study of these patients and it will be noted that of those studied, the majority had some evidence of a disease process. Twelve had evidence of pressure on the stomach or duodenum, or irritability of the duodenum. Seven had negative barium studies, and ten were not studied. Six had non-functioning gall bladders to cholecystography. Calcification of the pancreas is a frequent finding in recurrent pancreatitis of many years duration,[10,11,12] but one patient in this series had calcification of the pancreas.

11. HYPERGLYCEMIA IN CARCINOMA OF PANCREAS

Present	7
Not present	8
No blood sugar	15

Of the other laboratory determinations hyperglycemia is a common finding. A number of these patients were first diagnosed as having diabetes mellitus. The explanation for the hyperglycemia is that the islet cells are functionally impaired, either from inflammation, edema or actual carcinomatous invasion. This same finding is seen in patients who have recurrent pancreatitis where the islet cell functional impairment fluctuates.[13,14,15,16] If there is anything unusual about this hyperglycemia it is its mildness. These patients rarely require much insulin. The glucose tolerance test is a better way of demonstrating the potential hyperglycemia. Glycosuria may not always be present.

12. SERUM AMYLASE DETERMINATIONS

Elevated	5
Normal	4
Low	5
Not done	15

The serum amylase of patients with suspected carcinoma of the pancreas has been studied,[17,18,19] and in this group ten of the fourteen patients studied

had abnormal serum amylase determinations. The elevated amylase probably indicates obstruction of the pancreatic ducts, and the low serum amylase which has not been proven to be significant, we believe to be due to a reduction in the glands' capacity to produce amylase.

13. Serum Alkaline Phosphatase

Elevated (jaundice)	11
Normal	3

Serum alkaline phosphatase has been reported as showing an elevation in patients with carcinoma of the pancreas,[8] and in the fourteen cases studied eleven had elevated values. Whether this elevation of phosphatase arises from pancreatic tissue or liver tissue is not understood, since in these particular patients jaundice was present. It is our impression, however, that the elevation is due to growth of malignant tissue or to regeneration of cholangiolar or pancreatic duct cells.[20]

14. Anemia (admission)

(Less than 75% or 12 gms.)	8
None	17
Not stated	4

Anemia was not prominent in these patients and would appear to be of less significance in carcinoma of the pancreas than in carcinoma of other viscera.

Summary

Pain is the most important early feature in these cases of carcinoma of the pancreas. Peripheral thrombophlebitis occurs late, by which time the diagnosis of some type of carcinoma is usually obvious. The laboratory features which may be present to aid in arriving at a diagnosis of carcinoma of the pancreas in the early course of the disease are:

1. Hyperglycemia to glucose tolerance test.
2. Serum alkaline phosphatase increase; and
3. Serum amylase changes.

The X-ray evidence, while late, may occur at a time when surgery is still helpful.

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CORRESPONDENCE

Doctor, Help Prevent Dental Caries.

TO THE EDITOR,
VIRGINIA MEDICAL MONTHLY.
DEAR SIR:

Although the fact is not widely appreciated, dental caries is probably the most prevalent disease in America today, afflicting approximately 97% of our population, usually from early childhood until such time in the later years of life that the last remaining teeth are lost. Thus, while not directly fatal in nature, this disease yearly extracts an enormous toll from our people's health, finances, and general happiness and well-being. For these reasons, it represents an appalling public health problem.

To repair the many millions of unfilled cavities now present in American teeth would be a task far beyond the reach of our present-day dental resources. In fact, less than 25% of the American people receive any regular dental care, except the emergency extraction of "abscessed" teeth and, in some cases, the set of artificial dentures to which such a policy is apt to lead.

The dissatisfaction arising from this situation is lending impetus to programs promoting such socialistic systems as compulsory federal-level health insurance, which dentistry faces along with medicine.

Like all of the other health services, dentistry is turning its attention more and more towards the field of prevention. With this objective in view, the Council on Dental Health last year organized a Conference on Dental Health Education, co-sponsored jointly by the Virginia State Dental Association, the State Department of Health, and the State Department of Education. Dentists, health officers, and educators, 150 strong, met at Virginia Beach, Va., and, during four days of hard work, laid the groundwork, for a far-reaching program of improved dental health education in Virginia, with emphasis on the prevention of dental disease.

The sugar-rich diet is now well-known, beyond any reasonable doubt, to be the major etiologic agent in dental caries. Last year the American people consumed, in various sweets and confections, on an average more than one hundred pounds of sugar per person per year! This figure is amazing to nearly everyone except the dentist who, in his practice, must daily cope with the tragic results of such a national dietary habit.

Sugar, as you well know, contains none of the essential amino acids, none of the essential fatty acids, none of the essential minerals, and no vitamins. Furthermore, its ingestion in considerable amounts will markedly reduce the appetite for those foods which do contain these essential food elements. The physicians are well aware of the nutritional and dietary deficiencies among our population.

With all of the above in mind, the dentists of Virginia are seeking the assistance of the physicians, especially the pediatricians, in promoting the reduced ingestion of sugar-rich foods and drinks, particularly by children. For example, it is most disturbing to us to be informed that many pediatricians habitually reward their young patients for good behavior with, of all things, a lollipop! Nothing yet discovered by man is as efficient in the promotion of dental caries as the hard candies.

The Council on Dental Health will, therefore, be deeply grateful if you can find the space to print this communication in a forthcoming issue of the VIRGINIA MEDICAL MONTHLY. Much good might result.

MILLARD P. DOYLE, *Chairman*
E. BUDGE KENT, *Vice Chairman*
Council of Dental Health
Virginia State Dental Association

April 22, 1953.

Data Available on County Society Activities.

The third bi-annual survey of county medical society activities has been completed by the Council on Medical Service and is available on request. This year the survey covered a broader scope of activity in the field of medical service than previously, and results have been tabulated to show these activities by size of society. County societies may obtain, from the Council, general information on specific medical service programs and lists of societies where such programs already are in operation.

THE MEDICAL SOCIETY OF VIRGINIA

Committee for American Medical Education Foundation

February 6, 1953

Dr. James L. Hamner, *President*
The Medical Society of Virginia
Mannboro, Virginia

Dear Sir:

Recently, I attended the meeting of the American Medical Education Foundation in Chicago. It was a pleasure and honor to represent you and the State of Virginia at this meeting. There was supposed to be a representative of each state present. I did not see the actual breakdown, but there were about 60 persons in attendance. This was a most enthusiastic and inspiring meeting. No doctor could have attended this meeting without catching a vision of the greatness and magnitude of this effort.

As you know, no attempt was made in Virginia to start this drive until April, 1952. Even with such a late start in 1952 the record in Chicago shows that Virginia had 185 contributors last year, who gave a total of $5,424.80. This brought us up to the 17th state in the amount given. If we can contribute $12,000 this year we probably will rate about the 10th state in donations. If we can be rewarded with this good a result for our effort, the name of Virginia will stand out prominently among other states.

As of September, 1952, the Medical College of Virginia had received $36,392 from the National Fund and the University of Virginia had received $35,150. Just make it much more this year.

The American Medical Education Foundation has now gone far enough so that a situation has been created whereby the doctors must make good, or lose face.

It was reiterated that every one of the 79 schools which receives an earmarked donation, receives this donation above and beyond their 1/79th division of monies contributed undesignated for any particular school. In other words, every donation that one gives should if possible go through the A.M.E.F. so as to boost the record of gifts. It was discussed that Johns Hopkins is considering running through the A.M.E.F. fifty or sixty thousand dollars given to them directly. If Johns Hopkins or any other school merely writes to the A.M.E.F. that they received fifty or sixty thousand dollars, the A.M.E.F. cannot claim any credit. The money must go through the A.M.E.F., if only an exchange of checks is made, so that the A.M.E.F. may secure credit.

This is very important because the greatest gifts are expected from corporations and wealthy individuals through the Fund, and some corporations are making promises of $100,000 contingent upon a certain amount being given by the doctors through the Foundation. The American Medical Education Foundation is gifts of doctors only. The American Medical Education Fund is from those who are not M.D.'s. The doctors' solicitations toward their goal are through the medical profession.

Many of the trial and error ways are being gradually ironed out. It seems that every method of campaigning has been tried by someone. One state tried making the Councilors of the state the committee for compaigning for funds, with the Councilors then to have sub-committees, but this did not do so well.

Another state tried making a state committee composed of the presidents of the county societies. This effort was not so well rewarded.

Another state tried a series of letters, using the proven best way—that is, sending three letters, each about 10 days apart. This had some results, but one method stood out best, and that was by word of mouth, or personal contact.

It was reiterated in Chicago that every cent collected goes to the medical schools, and that the A.M.A. is underwriting all overhead as well as giving $500,000 annually to the Foundation. The A.M.A. has made no commitments as to how many years they will do this.

The goal of the Foundation this year is $2,000,000, and if this sum can be reached, the Fund will advance much more rapidly and probably will hit a $10,000,000 total. To reiterate again, it was thought by every speaker in Chicago that the Fund from big givers and corporations will eventually be far more than the Foundation contributions.

In Virginia we have made arrangements through the committee appointed by you to see every doctor in the state. This is rather ambitious, maybe, but the goal will be reached in the next year or two. Any doctor we miss can send his check direct to our state secretary, Bob Howard. In fact, there is no use waiting for a committee man to see a doctor—each doctor can mail his check in to Bob Howard. The sooner this is done, the more quickly our medical

schools get the money. Every check sent in earmarked for a medical school is forwarded immediately to that medical school.

Many talks were made in Chicago about how we cannot and must not fail our medical schools. The only way seen now to keep out of socialized medicine is to put over the A.M.E.F. There are only three sources of income to save the medical schools from being federalized, and they are—gifts from new organizations, new individuals, and renewals.

In 1951, 1811 contributed to the A.M.E.F. 3700 contributed in 1952. If this number can be doubled in 1953, and it was thought in Chicago that it could be, then we are definitely and rapidly climbing the stairs towards a goal that will mean medicine has been saved, at this point in our lives, from socialization.

I would recommend to every doctor in the State of Virginia to write to the A.M.A. for the pamphlets, "Crisis in Medicine" and "Your Tax Dollars and the A.M.E.F." if they have not read them.

The A.M.A. states that we are graduating over 6,000 new doctors every year and that it should be clear to every doctor that if the medical schools continue to operate without proper finances it will seriously damage the teaching system and ultimately lower the standards of medical practice in the U.S.

The United States enjoys the highest health standards in the world and we cannot permit the creeping paralysis of government control to envelop our schools and ultimately dictate the standards of medical practice.

The medical schools are the foundation of America's health. The medical schools need at least $10,000,000 annually to meet their operating needs. We want these funds to come from private sources.

It now costs $10,000 to train a doctor. Tuition fees raised 165% since 1940 pay only 1/5 of this cost. Funds from other sources must be found. The A.M.E.F. is the answer.

I was greatly impressed in Chicago when I found out that the Woman's Auxiliary is coming to the aid of the doctors in obtaining donations for the Foundation. I was pleased to note on the record that the Woman's Auxiliary in Virginia has contributed to the A.M.E.F. This is a wonderful happening.

In closing, I would like to say that there was in this meeting in Chicago a buoyancy and enthusiasm that will go far towards enabling the medical profession to reach its goal. This Foundation is going forward and I want to see Virginia among the first 10 in the U.S. in their aid to this unusually worthy cause.

Again I thank you for allowing me to represent Virginia at this meeting.

MARCELLUS A. JOHNSON, JR., M.D.

Two Doctors Join AMA Hospital Field Staff.

The recent appointment of Drs. Arthur N. Springall and Joseph J. A. McMullin boosts the field staff of the Council on Medical Education and Hospitals to nine full-time physicians. Each staff member has been assigned a geographic area and will review, on a bi-annual basis, the internship and residency programs in approved hospitals.

This increase in staff will expedite the processing of new applications for approval of internships and residencies and make possible a review of currently approved programs at least once every two years. At present the Council conducts the inspection program relating to the approval of hospitals for internship and residency training—a joint effort of the Specialty Boards, the American College of Physicians and the American College of Surgeons. In addition, the professional staff will assume responsibility for surveys in behalf of the Joint Commission on Accreditation of Hospitals.

Other members of the staff who will be visiting hospitals throughout the country include: Drs. William R. Albus, Joseph R. Anderson, Fernald C. Fitts, Charles C. Hedges, Thure A. Nordlander, Frank W. Ryan and William W. Southard.

MENTAL HEALTH

Joseph E. Barrett, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals

A Summarization of Recent Articles Showing Mental Hospital Problems from a Statistical Viewpoint*

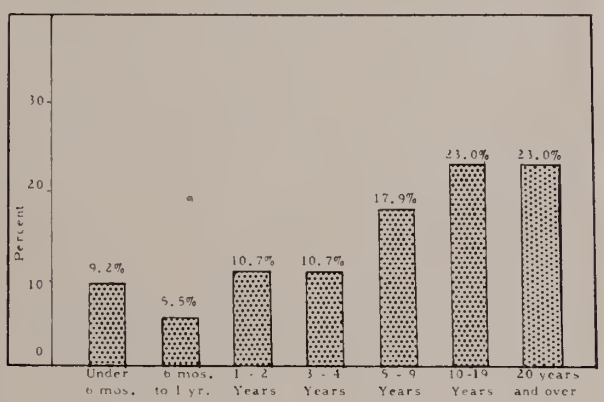
The state mental hospitals in Virginia have advanced in their treatment of the mentally ill in recent years. This is indicated by a change in the rate of discharge of patients. In 1945 the rate per 100 admissions was 55 and in 1952 the rate of discharge was 67.3 per 100 admissions.

The increase in ratio of discharges to admissions over the past years is largely due to new concepts of treatment and as much intensive treatment as possible soon after admission. The ratio of discharges after 6 months hospitalization is far below that of those of less than 6 months hospitalization. Therefore, the longer a patient remains in hospital his chance of discharge decreases at a very fast rate. More and more we realize planning should be developed around concentrated treatment upon the admission of a patient to the hospital. Of course, there is always a risk in releasing patients, but if they are not released when improvement justifies it, they will not have a chance to live as normal a life as they are capable of doing.

In recent articles we have presented a statistical picture of some of the problems of hospital population and certain mental diseases of high frequency—schizophrenia, manic-depressive, senile-arteriosclerotic group and alcoholism.

In summarizing the situation we are confronted with the problem of older persons being admitted to the hospitals, the build-up of older patients by those who have remained for a long period of time and a general increase in hospital population. As of June 30, 1952, 23.0% of the patients in residence had been on record 20 years or longer and 46%, or nearly half the population, had been in residence 10 years or longer. The accompanying chart shows the percentage of distribution of the 10,125 patients in hospital on June 30, 1952, by the length of time on record.

Those diagnosed as schizophrenia comprised 51.6% of those in hospital 20 years or longer, and manic-depressive psychosis 25.8%. All other diseases were 22.8%. From this it behooves a concentration on treatment of schizophrenia and manic-depressive to prevent such a large percentage remaining such a long period of time. Recognition of these mental disorders in the early stages followed by treatment before they reach the chronic stage, would also prevent many from becoming old in the mental hospitals.



Percentage distribution of length of time on books of patients resident in hospitals as of June 30, 1952.

The admission of older people—those diagnosed as senile or psychosis with arteriosclerosis—is of much concern to the state hospital authorities. First admissions in this group have increased from 19.2% in 1940 to 32.8% in 1952. This rapid increase in these admissions has placed a burden on present facilities to care for them. It is evident that definite plans must be made for this group. With the expectancy of life increasing, an increase in the admission of this group may also be expected. Even though their hospitalization is usually of a short duration, which usually terminates in death after an average of 2½ years hospitalization, they must have treatment and care.

Another specific problem is that of the alcoholics. Even though the discharge rate to admissions is relatively one for one, which indicates a short treatment period, they create a time consuming problem for the physicians and staff.

It is not wise to have the alcoholics hospitalized with the mentally ill patients. Though many may have emotional problems that need psychiatric treatment, it is believed that more success could be attained with separate facilities for these patients with a concentration on the type of treatment necessary

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

for the alcoholic. The first admissions of alcoholics have ranged from a high of 23.0% to a low of 7.0% of all first admissions. The readmission rate is slightly higher ranging from 24.7% to 12.4%. This means that 500 to 700 alcoholics are admitted to the hospitals each year.

The overcrowding in the hospitals is also a hindrance to the best results from treatment. Among the problems in overcrowded conditions, is the necessity in many cases of placing newly admitted patients among those who have been hospitalized for a period of time; the older age patients with younger patients and the chronic with acutely ill patients. At the present time the overcrowding is 19% of the rated capacity of the four state hospitals. With the opening of new buildings, the decrease in the past year in overcrowding was 3%. New buildings have added 8% more space, but the increase in population held the overcrowding to the 3% reduction. Plans have been made for moving two of the hospitals to new locations. The reduction in overcrowding, however, will be slow because of the time necessary in construction of new buildings. Also, there will not be much change in one of the hospitals because old condemned buildings will be razed as soon as vacated.

Mental illness is a number one health problem. Therefore, our efforts should be concentrated on reducing this problem with improved methods of care and treatment because if a person becomes mentally ill he should not be forgotten. Some of the ways this can be done are:

1—Early recognition of mental and emotional disorders to be followed by treatment in the early stages which will prevent many chronic cases.

2—Special facilities for the care of patients admitted with the diagnosis of senility and arteriosclerosis. These constitute about a third of the first admissions at the present time and an increase can be expected in future years.

3—Immediate intensive treatment of psychotic patients so that their chance of return to their homes and communities may be increased. This requires qualified and trained personnel and uncrowded facilities.

4—Separate institutions for the treatment of alcoholics so that the treatment best suited can be administered without conflicting with the treatment of mentally ill patients.

5—A long range, well formulated, planning program is necessary and the plans must be carried out if we hope to meet completely the problem of mental illness to reach a goal of good mental health. A beginning has been made, but it will take the cooperation of the public, the government and hospital authorities to succeed.

AMA Offers Two New Exhibits.

Two new exhibits will be available for showing at state medical society meetings this fall, the Bureau of Exhibits reports. One exhibit—"Accidental Poisoning in Children"—is based on authentic fatal accident cases, while the other—"A Medical Service Program for your Community"—covers various activities of medical societies and voluntary and public health agencies.

The exhibit on accidental poisonings, from the Committee on Pesticides, emphasizes points of danger in the home, yard and selected farm locations. When staffed with trained personnel, this makes an effective showing at public gatherings, state and county fairs, food and home shows. Subjects included in the exhibit developed by the Council on Medical Service range from care of the chronically ill to hospital construction, physician placement, and rehabilitation.

Both exhibits require space 10 feet long and six feet deep—or, if shown in extended fashion, 20 feet long and three feet deep. Requests for bookings may be made to the Bureau of Exhibits after June 15.

PUBLIC HEALTH

Mack I. Shanholtz, M.D.
State Health Commissioner of Virginia

Gamma Globulin in Poliomyelitis

Gamma globulin to be used as a measure to temporarily protect contacts to cases of poliomyelitis against development of paralysis, is being distributed by the Office of Defense Mobilization to State and Territorial Health Departments on the basis of their past experience with the disease. The State or Territorial Health Commissioner has the full responsibility for the distribution of the gamma globulin allocated to him.

Gamma globulin is a derivative of whole blood obtained by a process of separation and concentration from batches of pooled blood obtained from normal adults. The immune substances or antibodies are present in the globulin fraction of the blood. Since the blood is the mixture of many adult bloods and a majority of adults are immune to one or more of the three strains of poliomyelitis, the immune substances or antibodies against all three virus types are present. The use of gamma globulin may confer a temporary passive immunity of four to six weeks' duration against the paralysis of poliomyelitis if it is administered to contacts shortly after exposure to the disease. Gamma globulin does not have any value in the treatment of poliomyelitis. It should be emphasized that while the reports on the use of gamma globulin in protecting against the paralysis of poliomyelitis have been encouraging, the immunity conferred is only temporary and is not 100 per cent effective.

The supply of gamma globulin is limited. The greater part of the total supply will be available for the prophylaxis of poliomyelitis. The allocation of immune globulin for prophylaxis of measles and infectious hepatitis will be continued on a stated basis and will be separate from that for poliomyelitis.

The method of distribution in Virginia has been approved by the Poliomyelitis Committee of The Medical Society of Virginia and will be made to the City and County Health Departments on the basis of population of children between the ages of six months to fifteen years. Gamma globulin will be used for this age group who have had household contact with a patient whose diagnosis has been confirmed in one of the Centers for treatment of poliomyelitis. By household contact is meant people living in the same home and who share the intimacies of bath, rooms, and table. The physician will make his request for gamma globulin to the Director of Public Health within the area of residence of the contact. Forms are provided by the State Health Department for making these requests. In addition to the age group six months to fifteen years, gamma globulin will be supplied for prophylaxis in household exposure of pregnant women. It is indicated that the mortality rate (not the attack rate) is higher during the late months of pregnancy and early postpartum period. The approximate dosage recommended in all cases is 0.14cc. per pound of body weight up to 10cc.

There are more than one million children in Virginia and the supply of gamma globulin is an amount that may be used on approximately 3,000 contacts. In Virginia 76 per cent of the cases of poliomyelitis have been in the age group not more than 15 years of age. Distribution for use in the age group selected will, therefore, be effective in preventing the greatest number of cases.

The amount of gamma globulin necessary to protect the average child is produced from a pint of blood. The amount of available blood plus the facilities for processing the blood are factors which cause the supply to be limited. Gamma globulin cannot be bought and it is stressed that regulations must be followed. Gamma globulin within current dates for use may be obtained only through health departments. Physicians are encouraged to use as much as but not more than is needed to treat a particular contact. There is no charge made for gamma globulin but the physicians may make their regular charge for routine inoculations.

The physicians also agree that they will furnish follow-up information regarding the protection afforded by the use of gamma globulin. This is particularly important in evaluating the over-all effectiveness of this agent in protecting against the paralysis of poliomyelitis.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	April 1953	April 1952	Jan.-April 1953	Jan.-April 1952
Brucellosis	1	3	16	7
Diarrhea & Dysentery	8	77	341	527
Diphtheria	1	9	45	36
Hepatitis	185	34	753	246
Measles	842	3442	2321	9557
Meningitis (Meningococcic)	16	29	103	82
Poliomyelitis	3	0	10	11
Rocky Mt. Spotted Fever	2	1	2	3
Scarlet Fever	125	117	466	381
Tularemia	0	0	14	22
Typhoid & Paratyphoid	4	4	16	18
Rabies in Animals	41	54	193	223

How to Get a Doctor—Booklet Available Soon.

A new pamphlet—"A Doctor for your Community"—will be published some time in June by the American Medical Association. This booklet, directed toward communities seeking a physician, describes briefly the problems involved in obtaining a doctor, the things a community can do to attract and keep a doctor, and examples of what has been done elsewhere. A joint project of the Council on Medical Service, Council on Rural Health and Department of Public Relations, the booklet will be available to state medical societies for distribution to communities listed with their placement services.

In addition, the Council on Medical Service has compiled information from numerous state placement services in a reprint which will be especially useful to state societies interested in expanding their activities in this field.

New Platters—AMA Contributions to Better Health.

Common health problems and how the American Medical Association has helped to solve them form the basis of a new series of radio transcriptions to be released May 15. The 13-program series—"Yours for Health"—shows how the work of various AMA councils and committees has contributed to better health for the American people. Subjects included in the series prepared by the Bureau of Health Education: (1) How Do We Know? Facts and Statistics, (2) Food and Nutrition, (3) The Part Played by Drugs, (4) Impaired Hearing and Hearing Aids, (5) Training Good Doctors, (6) You and Your Hospital, (7) It's the Law, (8) Defense Against Poisons, (9) Safe Cosmetics, (10) Meeting Medical Costs, (11) Health and the Aged, (12) Driving Out the Quacks, and (13) Mental Health.

Add to Lists of Library and Films Cleared for TV.

Supplementary lists of films cleared for television and films available through the AMA's motion picture library now may be obtained from the Committee on Medical Motion Pictures. One supplement lists 38 health education films cleared for TV since publication of the original list in 1951. The other includes 12 motion pictures added to the library since the December, 1952, catalog was published.

PR Tip of the Month.

In unity is strength. If medicine's public relations program is to be effective, we must not permit internal conflicts to divert our interest or attention from the public service objectives to which we have dedicated ourselves. Let's build PR bridges—not batter them down!—*PR Doctor*

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—
Mrs. Thomas N. Hunnicutt, Jr., Newport News
President-Elect ——— Mrs. K. W. Howard, Portsmouth
Treasurer ——— Mrs. Wm. C. Barr, Richmond
Recording Secretary ——— Mrs. Lee S. Liggan, Irvington
Corresponding Secretary—
Mrs. F. A. Carmines, Newport News
Publication Chairman—
Mrs. Robert H. Detwiler, Arlington

News from Auxiliaries.

Southwestern Virginia

The Woman's Auxiliary to the Southwestern Virginia Medical Society met at the Lincoln Hotel, Marion, April 16, with thirty members present. The new president. Mrs. James P. King, Radford, presided. Following the reading of the Auxiliary Creed, Mrs. Willis Sprinkle, president of the Smyth County Auxiliary, welcomed the visitors with Mrs. C. G. Fox, Jr., Pulaski, giving the response.

The usual business was transacted and reports of committees given. Mrs. King explained the goal—"Every Auxiliary a Contributor"—of the American Medical Education Foundation. Contributions were made to this fund and to the Leigh-Hodges-Wright fund. Mrs. Kalford W. Howard, President-elect, Woman's Auxiliary to The Medical Society of Virginia gave an interesting and inspiring address on "Organized Loyalty".

Following the meeting members of the auxiliary were guests of the Smyth County Auxiliary on a tour of the Southwestern State Hospital and a tea before joining the physicians of the Society for a social hour and banquet at the Lincoln Hotel.

Ada Lee Coates, *Secretary*
(Mrs. Joseph Coates)

Arlington

On the Fashion Show sponsored by the Auxiliary on March 10, a profit of $631.05 was realized. It is planned to add this to the $700 given the Arlington Hospital last year to go toward the purchase of a Doctor's "Call Board" for the Hospital.

Arlington physicians were remembered on National Doctor's Day when members of the Auxiliary presented each doctor with a red carnation boutonniere. Mrs. Sigmund Newman, chairman of the project, entertained members of the Auxiliary with a coffee-fest prior to distributing the flowers.

Richmond

For the second part of our "Doctor's Day" observance, we gave sample drugs to the Retreat for the Sick and Sheltering Arms Hospitals on "Doctor's Day", March the 30th.

Mrs. Russell Snead and her committee did a wonderful job collecting and separating the sample drugs. It was estimated that we gave approximately $5,000.00 worth to Sheltering Arms Hospital. The amount we gave to Retreat for the Sick was not estimated.

Mrs. Maynard Emlaw, our president, arranged for Polly Daffron to interview Dr. T. W. Murrell, Sr. on her radio program on "Doctor's Day". He spoke on "Advances in the Practice of Medicine".

All of the members of the Richmond Auxiliary have been working for the past two months on our annual "Benefit Tea", which was held at the home of Dr. and Mrs. W. Taliaferro Thompson, Jr., in Windsor Farms, on Friday, May 1st, from three to five o'clock. The tea guests were invited also to visit the lovely garden of Mr. and Mrs. F. H. Reaves, on Massie Road in Windsor Farms.

Mrs. W. A. Dashiell was General Chairman; Mrs. William Cox, Ticket Chairman; Mrs. L. W. Hulley, Jr., Arrangements Chairman; Mrs. Hunter Jackson, Hostess Chairman; Mrs. T. W. Murrell, Jr., Flowers; Mrs. Wyndham Blanton, Jr., Tea Table; Mrs. William Spencer, Baked Goods Chairman; Mrs. Custis L. Coleman, Refreshments Chairman; Mrs. W. P. Morrissette, Sandwich Chairman; Mrs. R. B. Lawrence, Punch Chairman; Mrs. George Ritchie, Cookie Chairman.

Members of the senior classes of the nursing schools of the Medical College of Virginia, Johnston-Willis, Stuart Circle, St. Luke's, St. Elizabeth's, and Grace Hospitals were invited to attend the tea as special guests of the Auxiliary. The exact amount cleared on the tea will be reported later.

We furnished 28 volunteers to man one of the Richmond Chapter, American Cancer Society Booths in a local department store, April the 20th through the 25th.

Janet F. Coleman (Mrs. Custis L.)
President-elect

NORTHAMPTON-ACCOMAC

The Auxiliary held its annual spring meeting at the home of Mrs. Joseph E. Gladstone at Exmore on April 14th, with fourteen members present. The meeting was opened with The Lord's Prayer by the vice-president, Mrs. E. E. Mihalyka, in the absence of the president, Mrs. John R. Hamilton. Minutes of the January meeting were read by the secretary, Mrs. H. L. Denoon, Jr., and Mrs. John Rogers Mapp, treasurer, gave her report. These were accepted. Mrs. Mihalyka gave a short history of the units of the auxiliary, and their functions.

A talk on the magazine "Today's Health" was given by Mrs. Holland Trower. This magazine, which is the publication of the American Medical Association, gives non-technical authoritative, easy to read articles published monthly by the A.M.A., which help to set the nation's health standards.

Mrs. J. Fred Edmonds gave a talk on the Bulletin of The Woman's Auxiliary which gives news of the workings of the Auxiliaries to the A.M.A. Reports of the National and State Conventions, Auxiliaries' activities, and anounced the Convention of the American Medical Association and The Woman's Auxiliaries to be held in New York City on June 1st to 5th.

Mrs. John R. Mapp then gave a moving and dramatic history of the operation on the pioneer woman, Jane Todd Crawford, of Rockbridge County, in the year 1800, for the removal of a 15 lb. tumor, on Christmas Day, by Dr. Ephraim McDowell. The townspeople were violently opposed to the operation, and gathered in protest and were preparing to hang the doctor should the patient die. The operation was very successful, and was the most important in the history of surgery, and Mrs. Crawford lived to be 79 years old.

The Auxiliary voted to give twenty dollars towards the Cancer Control fund—ten dollars for Accomac County and ten dollars for Northampton.

The meeting adjourned, and the auxiliary will be the guests of Dr. and Mrs. John R. Hamilton in July at their farm "Endview". This meeting will be a joint meeting of the Doctors and their wives, and the State president of The Woman's Auxiliary will be invited to attend. This meeting will also honor "Doctor's Day".

After the business meeting, the members enjoyed a delightful tea and social hour.

CATHERINE R. TROWER (MRS. HOLLAND)
Chairman, Press and Publicity

BOOKS

From The Workshop of Discoveries. By OTTO LOEWI, Research Professor of Pharmacology, New York University College of Medicine. Porter Lectures, Series 19. University of Kansas Press, Lawrence, 1953. 62 pages. Cloth. Price $2.00.

Operative Gynecology. By RICHARD W. Te LINDE, Professor of Gynecology, Johns Hopkins University and Chief Gynecologist, Johns Hopkins Hospital. Second Edition. J. B. Lippincott Company, Philadelphia. 1953. xxiv-902 pages. 409 figures and 7 color plates. Cloth. Price $20.00.

The Conception of Disease. Its History, Its Versions and Its Nature. By WALTER RIESE, M.D., Richmond, Virginia. Philosophical Library, New York, 1952. 120 pages. Cloth. Price $3.75.

This book is born of an intimate knowledge of medical history and of philosophy, acquired by the author during his many years of research and teaching activity in neurology and the history of medicine. Although each period of civilization formed its own particular conception of disease based upon its prevailing philosophy, the preceding conceptions never completely passed out of existence. They were either integrated into the newer conception or continue to exist side by side with it. Thus the growth of our present day conceptions of disease started in Greek-Roman culture and were influenced by all major developments in civilization. "The modern physician trying to make a diagnosis proceeds in the same way and uses the same intellectual avenues as his Roman forerunner." What has been added are mainly perfections in techniques and clarifications of certain issues. The rise of anatomy in the Renaissance gave full significance to regional aspects, the rise of pathology in the 18th century emphasized the lesions, and bacteriology finally widened the etiological aspects. Not only the historical-philosophical origin of the various conceptions of disease are discussed

by the author, but also their justifications, uses, and limitations. More than 100 footnotes and a carefully prepared index increase the value of this book, which contains numerous provocative thoughts for every physician with some philosophical or historical interests.

E.F.

Textbook of Surgery. Edited by H. F. MOSELEY, M.A., D.M., M.Ch. (Oxon), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S. (C), Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada. With Foreword by G. Gavin Miller, M.D., C.M., M.Sc. F.R.C.S. (C), F.A.C.S., Chairman of the Surgical Department, McGill University; Surgeon-in-Chief, Royal Victoria Hospital. St. Louis, The C. V. Mosby Company. 1952. xxi-896 pages. With 460 Text Illustrations and 46 Color Plates. Cloth. Price $15.00.

This book represents an integration of materials presented visually by its many excellent color plates and diagrams, and descriptively by its brevity and precision of written word. It is apparently organized to assist the medical student in his study of surgery and while he is interning. Hence, it does not serve as a technical reference for the skilled surgeon. The authors have provided valuable correlations of the study of surgery with anatomy, physiology, and pathology and "nudges" the student to desire more detailed information about the subjects discussed.

S.E.F.

The Low Fat Diet Cook Book, By DOROTHY MYERS HILDRETH and EUGENE A. HILDRETH, M.D. Introduction by Francis C. Wood, M.D. Medical Research Press, New York. 1952. xi-148 pages. Cloth. Price $2.95.

This specialized cook book was written by a dietitain and a doctor especially for the patient on a low fat diet. It should prove helpful to all such patients, if the cost of meals is not a prohibitive factor, and it will be of interest to dietitians and nutritionists working with out-patients.

A basic low fat diet containing 25-35 grams fat is outlined. Easy to follow directions are given on how to adjust the fat to a lower (or higher) level if the doctor so ordered. How to decrease the cholesterol content of the diet is also discussed as well as valuable suggestions for increasing or decreasing total daily caloric intake while still keeping the fat at a set amount.

The outstanding feature of the book is the variety it offers to a low fat diet through its 200 recipes. These, on the whole, are excellent, as are the menus, and give so many interesting food combinations. Herbs, wines and spices have been used occasionally, changing ordinary types of dishes into ones with special appetite appeal. For patients who are not allowed mineral oil salad dressings, two other recipes have been added which would be tasty substitutes. One suggestion from the reviewer is that lay persons who are to use this book be told to measure butter (when allowed) in standard teaspoons rather than to guess at a "standard pat".

It is gratifying in this day of fad diets to find the authors emphasizing the use of necessary foods each day. Their menus illustrate this by meeting the National Research Council recommended allowances for nutrients.

E.A.L. AND E.M.B.

The Literature on Streptomycin, 1944-1952. By SELMAN A. WAKSMAN, Institute of Microbiology, Rutgers University, Rutgers University Press, New Brunswick, New Jersey. 1952. xii-553 pages. Cloth. Price $5.00.

Here is a bibliography of interest and value to the investigator as well as to the clinician. The importance of the subject treated is evidenced by the fact that between the appearance of the first edition in 1948, and this revised edition in 1952, the number of references dealing with Streptomycin has increased from 1200 to nearly 6000! The 5500 references included in this work are listed in chronological order.

Various aspects and uses of the drug are mentioned in the literature listed, such as methods of isolation and purification, pharmacological, chemotherapeutic aspects, and many others including newer uses that have been developed.

No more new editions of this bibliography are planned, but annual supplements will be issued. This revised edition is a listing as complete as possible, gathered from the resources of Rutgers University and the Medical Department of Merck & Co.

Subject and author approaches are provided. Improvements are needed in the indexes as some joint author have been omitted, and some items are not approached through either index.

Due to the inclusion of background articles, and of articles that deal with other antibiotics as well, this bibliography may be used in a limited way for antibiotic literature. This work should be welcomed as a contribution toward bibliographic organization.

S.M.

EDITORIAL

The Physician's Responsibility in the Early Diagnosis And Treatment of Cancer of the Lung

THE frequency of cancer of the lung has increased until now it comprises 10 per cent of all cancers and in many institutions represents the commonest malignancy seen in the male sex.

The medical profession has failed to achieve a high percentage of success in the early recognition of cancer of the lung. It is necessary to stress the tragic delay of eight to twelve months existing between the onset of frank symptoms and definitive therapy. The physician and specialist are responsible for considerably more than 50 per cent of this delay. The patient himself is less culpable than the medical profession.

Until some better means of therapy is available surgery offers the only hope of cure for patients with pulmonary cancer. What is the present situation as regards the surgical treatment of carcinoma of the lung? At least 30 per cent of patients are hopelessly inoperable when first seen. An additional 30 per cent are hopefully explored by an optimistic surgeon but the lesions cannot be resected. In only 40 per cent of the total number of patients seen can the cancer be resected, and of these lesions only half or 20 per cent can be considered localized lesions with a good prospect of cure. The five year survival rate of the entire group is under 10 per cent. The five year survival rate of the resected group is between 15 and 20 per cent. The five year survival rate of the resected group with localized lesions, however, will exceed 40 per cent.

Early diagnosis offers the best means of improving the present results of surgical treatment. To a limited extent the layman can be educated to appreciate the early symptoms of cancer of the lung. The greatest room for improvement, however, lies within the medical profession. The age of specialization has not yet corrected our deficiencies. One surgeon reports a longer lag period now than five years ago and a two to three months longer delay for private than for ward patients. This discouraging fact has probably resulted from attempts by the physician or specialist to obtain positive proof of cancer before submitting a cancer suspect to surgery. Exploratory thoracotomy is the most accurate means of making a diagnosis and far safer than waiting until proof can otherwise be obtained and the cancer is hopelessly advanced.

Although the peak incidence of cancer of the lung occurs in the sixth and seventh decades, it is quite common in the fifth decade of life and by no means rare in the fourth decade. Thus the young individual becomes a suspect also. Although the susceptibility of the male sex exceeds that of the female by fifteen to one, this percentage can never be used as a basis for excluding carcinoma of the lung in the female.

Until a suitable chemical test can be developed, the greatest hope for early diagnosis in cancer of the lung lies in mass survey studies by roentgenology. This is a relatively cheap and effective means of detecting cancer suspects. One in every ten thousand so studied has harbored a silent lung cancer. Where surgical therapy was sought without delay almost 100 per cent of these lesions have proved resectable and approximately 70 per cent have been found localized with good prospects of cure at the time of resection. Too often, however, such lesions have been shrugged off or the patient told to return in six weeks for another roentgenogram. Such a policy has no justification. If cancer is suspected on the original film, even though histologic proof by bronchoscopy or bronchial secretions is lacking, exploration is indicated.

In most early silent cancers of the lung discovered by roentgenography, the so-called

"coin" lesion is observed. Such a lesion closely resembles a tuberculoma, a chondroma or hamartoma, a fluid containing cyst, or a metastatic lesion. In almost all such cases bronchoscopy will be negative. With expert help, with careful collection of bronchial secretions, and with industrious search a positive diagnosis can be made from cancer cells in the bronchial secretions in 50 per cent of these early lesions. Such facilities are not often available. At least three specimens of bronchial washings or sputum must be submitted to the pathologist. It is important to emphasize that negative results have no value. The negative patients remain cancer suspects and exploratory thoracotomy must be utilized for diagnosis. Attempted biopsy by needle aspiration is definitely contraindicated. A negative result means nothing; a positive result means a very real danger of implantation of cancer cells along the needle track or in the chest wall, or possible embolization through the blood stream. Needle biopsy should be reserved for obviously inoperable cases in which a histologic diagnosis is necessary to guide palliative therapy.

At thoracotomy the surgeon can make the diagnosis by local or segmental resection with a minimal sacrifice of lung tissue in the case of a benign lesion and with the institution of appropriate resection for the malignant lesion.

Repetitious x-ray studies to determine whether a lesion enlarges have no justification. If x-ray study indicates enlargement of the lesion after six weeks or after six months, much valuable time has been lost. If the lesion fails to enlarge on the roentgenogram no important additional information has been gained, since it has been clearly shown that some pulmonary cancers remain apparently inactive by roentgenographic evaluation for months or even years. The decision to operate or not to operate should be made on the basis of the original investigation.

From time to time asymptomatic patients are said to refuse surgery. Under such circumstances we believe that it is the professional duty and moral obligation of the first consulting physician after his initial diagnostic studies to apprize the patient of the possibility of cancer of the lung and to urge proper therapy. Too often the remorseful patient is later heard to say, "But I was only told I had a tumor or a shadow in the lung," or, "I was told to come back in six weeks but I felt fine and didn't return."

If uncertainty still exists after all appropriate diagnostic studies have been utilized including, if necessary bronchoscopy, cystology, bacteriology and special roentgenography with laminography or bronchography, exploratory thoracotomy should not be postponed.

Cancer of the lung is a great mimic and masquerades under many guises.

Cancer of the lung frequently eludes the physician under the guise of pulmonary infection. This is usually due to complete or partial obstruction by tumor of the bronchus to a segment or lobe. Partial or complete regression of pneumonitis may occur under antibiotic therapy and cause the physician to overlook the underlying cause of the pulmonary infection. Or bronchiectasis demonstrable by lipiodol studies may be accepted as the primary disease. "Virus" pneumonia is carcinoma of the lung until proved otherwise. Chronic unresolved pneumonitis does exist but this cannot be accepted as the primary etiology until carcinoma of the lung has been ruled out. The failure of any undiagnosed pulmonary infiltrative process to resolve after three weeks of antibiotic therapy is sufficient indication for bronchoscopy and other diagnostic studies, leading, if necessary, to exploratory thoracotomy.

The underlying cause for an empyema should always be sought. Empyema following lobar pneumonia is extremely rare today. Empyema may result from a lung ab-

scess, bronchiectasis, from the rupture of a tuberculous focus, or from infection in a lung distal to an obstructed bronchus. Empyema resulting from pneumonitis secondary to obstruction by carcinoma is a not infrequent occurrence. Bronchoscopy should be advised if the slightest uncertainty exists regarding the cause of the empyema. Persistence of densities in the lung field after adequate treatment of the empyema should arouse immediate suspicion.

Carcinoma of the lung may necrose centrally and simulate lung abscess. Usually the wall of a necrosing tumor will appear thicker than that of a pyogenic abscess and the inner layer of the wall irregular and somewhat ragged. However, this differentiation is not universally reliable.

Carcinoma of the lung often mimics tuberculosis. It is often impossible to differentiate a small peripheral carcinoma from a tuberculoma. Other confusing situations involving cavitation are encountered. A pyogenic abscess cavity distal to a neoplastic obstruction of a bronchus may closely resemble a tuberculous cavity. A decrease in the size of the cavity on antibiotic therapy may lead to further confusion. The finding of a negative sputum in a patient with an open cavity should excite further inquiry.

The coincidental occurrence of carcinoma and tuberculosis all too often leads to a fatal delay. Active tuberculosis is being seen more frequently in the older age group. Carcinoma may cause reactivation of a quiescent lesion or erosion into a tuberculous focus. Thus one must remain alert to the possibility of a cancer of the lung even in the presence of a positive sputum for tuberculosis.

Arthralgia may present as the initial symptom of cancer of the lung. This often leads to a presumptive diagnosis of rheumatoid or degenerative arthritis with a resulting lapse of many months before a chest film reveals the true cause of the arthralgia. Clubbing may or may not be observed in conjunction with the arthralgia.

The wheeze resulting from an intrabronchial mass partially obstructing a major bronchus has too often been labeled a manifestation of bronchial asthma. Careful auscultation will permit unilateral localization and serve to differentiate the two conditions.

Onset of persistent cough or change in the character of a previous "cigarette" cough, even in the absence of any other symptoms, should prompt careful investigation.

If cancer of the lung is to be diagnosed early, an extremely high index of suspicion must be maintained by the physician.

L.H.B.

First Western Hemisphere Conference of the World Medical Association

DURING the week of April 21-25, Richmond earned for itself an enviable place on the medical map of the Western Hemisphere. It was the *locale* of the First Western Hemisphere Conference of the World Medical Association. We started to say "host" but that is not strictly correct for the A. H. Robins Company, Inc., furnished a quarter of a million dollars to provide for expenses of the delegates and their entertainment. Their excuse, if excuse be necessary, was that they were celebrating their own seventy-fifth anniversary and their moving into a fine new plant.

"Seventy-five years" was the theme of the meeting. Each State in the Union was

represented by a doctor who was seventy-five years old, who was nominated by the Governor of his State upon the invitation of Governor Battle. They came as guests of the Conference and added much to the general interest of the meeting. The papers and panel discussions all treated of the advances in medicine in the past seventy-five years. These papers will be gathered into a volume entitled "Seventy-Five Years of Medical Progress, 1878-1953." There was no age test for the representatives of the medical societies of Canada and the Latin American Republics, but they also had their expenses paid. Much entertainment befitting distinguished guests was provided. There were sightseeing trips, breakfast meetings, luncheon meetings, dinner meetings, a banquet, and an all day trip to Williamsburg.

Our professional brothers to the South are great sticklers for rank and official recognition. Most of the foreign delegates were presidents or high officials of national or international societies in their own countries. Secretary-General of the World Medical Association, Louis H. Bauer, M.D., presided over the plenary sessions and the "Top Brass" of the American Medical Association were out in full force. The talking talent—lectures, panel discussions, etc.—was supplied by professors in universities across the country from the Atlantic to the Pacific. Governor Battle graciously and efficiently supplied the official glamour.

Space does not permit a detailed notice of reports on medical education, social security, industrial medicine, the exchange of scientific information, and health problems, nor of the many panel discussions of important new work in the 19 areas of specialization. Our visitors seemed well pleased with both the scientific and cultural aspects of the Conference.

Southern Pediatric Seminar

THE Southern Pediatric Seminar will hold its 33rd annual session this summer in Saluda, North Carolina. Two weeks (July 20 through August 1) will be devoted to pediatrics and one week (August 3 through 8) will be devoted to obstetrics.

This is an institution of which doctors in the south have a right to be proud. It was founded by a southern doctor, it is owned and operated by southern doctors, and its faculty members consist of outstanding southern physicians. It has been deemed by many the best postgraduate course in pediatrics and obstetrics available in the country today.

The course consists of lectures, clinics, demonstrations, clinical pathological conference. The members of the faculty are equally divided between physicians in teaching positions and physicians in active practice. Ample opportunity is given for discussions in small groups and for the answering of questions. Every effort is made to give the general practitioner the material and information which he needs in his every day practice.

The course is fully accredited by the American Academy of General Practice.

One great feature of the Seminar is that it is held in the cooling atmosphere of the mountains of North Carolina and many physicians make of the occasion a vacation as well as a time for learning, taking their wives and children with them. Provision is made for the housing of families.

Any general practitioner who is anxious to catch up on what is new in the fields of pediatrics or obstetrics is urged to write for further information to Dr. D. L. Smith, Registrar, Saluda, North Carolina.

SOCIETIES

The Southwestern Virginia Medical Society

Held their Spring meeting at the Lincoln Hotel, Marion, on April 16, under the presidency of Dr. Frank A. Farmer of Roanoke. The following Scientific Program was presented:

1. "The Present Status of NPH Insulin"—Dr. Bennett Y. Cowan, Bristol
2. "The Management of Cardio-Spasm"—Dr. Marcellus Johnson, III, Roanoke
3. Symposium—*The Management of Pain*—Speakers from the Department of Neurology and Psychiatry of the University of Virginia
   "Personality Factors"—Dr. David C. Wilson
   "The Relations to The Nervous System"—Dr. Cary G. Suter
   "The Use of Drugs in The Control of Pain"—Dr. Edward V. Jones, Jr.

Following the Scientific program, a short business session was held. The Society stood in a body for a minute of silence in honor of the memory of Dr. Linwood Keyser and Dr. E. L. Lawrence of Roanoke. Dr. Andrew Giesen gave a short report on Selective Service and Grievance Committee and Dr. J. T. Showalter reported on the Public Relations Committee. A motion was made by Dr. H. M. Hayter of Abingdon, in expression of professional respect of the Society of Dr. T. K. McKee of Saltville, who has concluded 54 years of service to the medical profession and to his community. It was moved and seconded that his name be placed before The Medical Society of Virginia for the honor of the practitioner of the year. The membership committee presented the names of twelve physicians who were elected to membership.

The meeting was adjourned until 7:00 P.M., at which time Dr. Richard L. Masland, Department of Psychiatry and Neurology, Bowman-Gray School of Medicine, Winston-Salem, North Carolina, spoke on "Minor Convulsive Seizures Resembling Functional or Visceral Diseases."

JAMES L. CHITWOOD
Secretary-Treasurer

Williamsburg-James City County Medical Society.

At the September, November and February meetings of the Society, several doctors were admitted to membership. On February 20, members and their wives or guests met at the home of Dr. and Mrs. Joseph E. Barrett in Williamsburg for a cocktail hour, followed by dinner at Eastern State Hospital. At this meeting, the scientific program was given by Dr. W. L. Southworth on civil defense, and officers were elected for 1953.

The Society met in the Williamsburg Lodge April 18, at 7:00 P.M. for dinner followed by a business meeting.

The newly elected officers were installed as follows: Dr. Hugh G. Stokes, Williamsburg, President; Dr. J. M. Henderson, Williamsburg, Vice-President; and Dr. E. B. Kilby, Toano, Secretary-Treasurer. The new president appointed eight committees as follows:

Membership—Dr. G. L. Jones, chairman
Program—Dr. B. T. Painter, Chairman
Public Relations—Dr. Linwood Farley, Chairman
Selective Service—Dr. G. L. Jones, Chairman
Grievance—Dr. J. R. Tucker, Chairman
Fluoridation of Water—Dr. H. M. Stryker, Chairman
Nominating—Dr. Frances E. Wood, Chairman
Committee of Study Constitution of the Society—Dr. Joseph E. Barrett, Chairman

The president expressed the hope that the public will make known to the society any complaint they may have against a physician. This complaint will be studied by the grievance committee.

The society voted to have nine meetings each year to be held at 6:00 P.M. second Wednesday of each month except June, July and August. The meeting was adjourned to meet at 6:00 P.M. Wednesday May 13th.

Wise County Medical Society.

At Hotel Norton, on the evening of April 8, thirty-five doctors enjoyed a steak dinner and an outstanding lecture by Dr. George M. Cooper, Professor of Roentgenology at the University Hospital, Charlottesville. This was illustrated by pictures on diagnosis and treatment of cancer with emphasis on x-ray limitation and diagnosis. He emphasized the importance of careful and complete histories and physical diagnoses. Dr. John D. Winebrenner, Area Medical Administrator, U. M. W. A. Welfare and Retirement Fund, spoke briefly. He will present our program at the next meeting on June 10th.

The proposed cancer diagnostic clinic was indorsed. The following committee was selected to organize it under the direction of Dr. George M. Cooper: Drs. Phillips, Kirch, Urban, Jones, Foust, Shelly and

Jesse. We enjoyed an interesting picture by Lederle.

Drs. J. P. Urban and C. P. E. Burgwyn were elected to membership. Dr. J. M. Suter of Abingdon and Dr. W. R. Jesse of Lebanon were guests.

T. J. Tudor, *Secretary-Treasurer*

The Midtidewater Medical Society

Met at Gloucester C. H. on April 28th, for its regular quarterly meeting.

A program consisting of papers relating to Pediatrics was presented by Dr. Paul Hogg whose subject was "Immunizations in Children". Dr. Ward Anderson spoke on "Common Dermatologic Lesions in Children", and Dr. C. W. Beaven "Use of Antibiotics in Children Diseases." All are of Newport News.

Dr. Wm. H. Hosfield, West Point, presided.

The next meeting of the society will be held at Urbanna on the fourth Tuesday in July.

M. H. Harris, *Secretary*

Richmond Academy of Medicine.

At the meeting of the Academy on May 12, Dr. C. L. Outland presiding, Dr. Alexander Steigman of the University of Louisville, Louisville, Kentucky, spoke on "Poliomyelitis—Current Status of Active and Passive Prophylaxis".

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held on Monday evening, April 13th at Lynchburg General Hospital. The speaker of the evening was Dr. George Minor, Associate Professor of Thoracic Surgery at the University of Virginia, who spoke on "Cardiac Surgery".

No business of importance was discussed at this meeting.

The Princess Anne County Medical Society,

At a recent meeting re-elected Dr. Ira L. Hancock of Creeds as president, and elected Dr. James W. Todd of Virginia Beach as secretary. This Society meets monthly from September through May.

NEWS

Virginia General Practice Group.

Under the capable leadership of Dr. W. Linwood Ball of Richmond as General Chairman, Friday evening, May 8, marked the conclusion of the third successful Scientific Assembly of the Virginia Academy of General Practice, held at the Hotel Jefferson in Richmond. A total of 226 physicians registered for the three-day Assembly, coming from West Virginia, North and South Carolina and Michigan, as well as from Virginia.

Diabetes and Chest Physicians held their annual scientific sessions in the forenoon and afternoon of May 6, speakers presenting splendid papers and panel discussions. A record attendance at each session has encouraged the officers of the *Virginia Diabetes Association* and the *Virginia Chapter, American College of Chest Physicians* to consider a continuance of the arrangements with the Virginia Academy which has proved so successful this year.

There were forty-eight Technical exhibits and the Scientific exhibits were also excellent.

On Thursday evening, there was a cocktail party, banquet and entertainment with an address by Dr. John S. DeTar of Milan, Michigan, of the American Academy of General Practice.

An interesting program was enjoyed by the members of the Woman's Auxiliary for two days.

Dr. Richard M. Reynolds of Norfolk was the unanimous choice for the 1954-55 President of the Academy, with Dr. John W. Davis, Jr. of Lynchburg as Vice-President-Elect. Dr. W. Linwood Ball of Richmond was elected to succeed himself as Secretary, with Dr. Carl W. Meador of Richmond as Treasurer. Elected to fill the three places on the Board of Directors which will become vacant in October were—Drs. William A. Young of Richmond, Frank A. Farmer of Roanoke and Charles F. Manges of Blacksburg. Drs. Ira L. Hancock of Creeds and B. A. Hopkins of Stuart were elected to succeed themselves as Delegate and Alternate, respectively, to the Congress of Delegates of the American Academy of General Practice for a term of two years.

The 1954 Annual Scientific Assembly will be held in Richmond during the first week in May and the Hotel Jefferson was again selected as the meeting place.

H.M.S.

Scientific Exhibits for Roanoke Meeting.

The Scientific Exhibit Committee of The Medical Society of Virginia is now receiving applications for space at the annual meeting in Roanoke, October

18-21. The scientific exhibits have, in the past, formed a most significant part of the Society's scientific sessions, and the committee is particularly interested in exhibits of a scientific or teaching nature that would appeal to the general practitioner. All members having material of interest should apply for space and it is hoped they may ask for a minimum space that could serve their purpose.

Applications should be made on forms furnished by the Society. Write Dr. Allen Barker, 603 Medical Arts Building, Roanoke, Virginia, for these and return them to him when completed. Applications must be in by July 1st.

Action of Virginia State Board of Medical Examiners Upheld By Court.

As a warning to others who might apply for license in Virginia to practice medicine when they do not comply with the requirements exacted by the State Board of Medical Examiners, it is interesting to note that the circuit court of Fairfax County recently upheld the action of the Board in refusing reciprocity or endorsement to a graduate of Middlesex University School of Medicine, a school not properly registered with the State Board of Education of Virginia as maintaining a standard satisfactory to that Board.

Joint Meeting.

The Virginia Society and the West Virginia Academy of Ophthalmology and Otolaryngology held a joint meeting at the Homestead, Hot Spring, Va., May 3, 4, and 5. The two organizations furnished an excellent program and the social features were most enjoyable. Separate business sessions were held by the two on Sunday evening and other business meetings at a time not to conflict with the professional program. Dr. A. D. Morgan of Norfolk and Dr. Melvin K. McGehee of Huntington, W. Va., divided the honors in presiding.

At the last business session, Dr. Peter N. Pastore of Richmond succeeded to the presidency of the Virginia Society. Dr. G. Slaughter Fitz-Hugh (former secretary), Charlottesville, was named president-elect; Dr. H. L. Mitchell, Lexington, vice-president; and Dr. L. Benjamin Sheppard, Richmond, was selected as secretary-treasurer.

The Neuropsychiatric Society of Virginia

Held its Spring meeting at Westbrook Sanatorium, Richmond, on April 1. The program included the presentation of five papers as follows:

"Suicide—Evaluation of the Threat"—Dr. Richard W. Garnett, Jr., Charlottesville

"Homicide—Evaluation of the Threat"—Dr. Joseph R. Blalock, Marion

"Shock Therapy—An Out-Patient Discussion"—Dr. J. J. Hladys, Richmond

"Drug Therapy—The Choice in Disturbed Psychiatric Patients"—Dr. Thomas F. Coates, Richmond

"Emergency Commitment—The Application and Choice of Patients"—Dr. Joseph E. Barrett, Richmond

At this time the new officers for 1953-54 were elected and are as follows: Dr. Frank Strickler, President; Dr. Granville L. Jones, Vice-President; and Dr. R. W. Garnett, Jr., Secretary-Treasurer. Drs. Frank Curran and J. R. Saunders are members of the Executive Committee.

GRANVILLE L. JONES,
Retiring Secretary-Treasurer.

Dr. R. C. Longan,

Richmond, was elected president of the Memorial Guidance Clinic, Richmond, at the annual meeting of the board of directors at its meeting the middle of April. Dr. Rex Blankinship and Dr. W. T. Thompson were re-elected to the board of directors for a term of three years.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has just completed the Twenty-Sixth Annual Refresher Course in Ophthalmology and Otolaryngology. There were about three hundred doctors in attendance. Forty-five states were represented including Canada and several foreign countries.

The Twenty-Seventh Annual Spring Congress will be held from April 5 to April 10, 1954.

Correction.

Kaufman, William H.: Vioform—Its Use In Dermatological Therapy, Virginia Medical Monthly 80:222 (April) 1953. The second paragraph should read: Although the preparation has been used for years by European dermatologists, and although introduced into dermatologic therapy in this country by Sulzberger as far back as 1929, only a scant literature has accumulated with reference to the use of Vioform in the treatment of diseases of the skin.

Dr. C. Bruce Morton,

Professor of Surgery at the University of Virginia Medical School, Charlottesville, addressed an open staff meeting of the Shenandoah Hospital, Roanoke, April 16. His subject was "Postcholecystectomy Symptoms Due to Cystic Duct Remenants" and his address was illustrated with lantern slides.

Your Advertisers.

Have you taken time to look over the advertisements in the Monthly? If not, you may be losing something valuable as they tell of many new preparations, and remind you of hospitals, instruments, x-ray and other equipment, infant foods, and many things which may have slipped the memory of a busy doctor. Take time to look over the advertising pages now, won't you? You may find it as fascinating as opening a prize bag.

Dr. E. W. Perkins

Of Richmond, participated in the symposium on the complications of eye surgery at the New York Academy of Medicine in New York City on April 22, and presented a paper on "The Complications of Eye Motility Surgery".

Dr. Lawrence Waring.

In its January 1953 issue of the Monthly, there was published a short account of the career of Lawrence Waring, M.D., who lived and practiced in Richmond around Civil War days and was known as "The Physician to the Poor." Under date of April 4, 1953, Dr. William H. Parker of Richmond, wrote the author, Dr. J. B. H. Waring, that he had read this account and stated further:

"I have an oil painting of Dr. Waring which has been in my home since early childhood. I believe he was in attendance at the birth of my sister in 1868. I will be very glad to send this portrait to you if you would like to have it."

Dr. J. B. H. Waring writes the Monthly that he acknowledged this letter and wrote the Doctor that he would be happy to receive the portrait of "this member of our clan of a bygone day whose career was a credit to 'God's Country' and to its Medical Profession. I would like the Physicians of Virginia to know of this handsome gift by Dr. Parker; and for Dr. Parker to know that this portrait of Lawrence Waring, M.D. will always have a place of honor in my care."

Highland Springs Doctor Honored.

Dr. B. Herman Bailey who, for twenty-six years has served the people in sections of Henrico, New Kent and Hanover Counties, has found it necessary to cut down on his work and is leaving Highland Springs for a home at Yorktown where he will engage in limited work. In appreciation of his service, the people of that community gathered on May 13th, to honor him and his wife with music, dancing and refreshments, and also presented the Doctor with a special gun cabinet built into his home at Yorktown.

Winchester Dedicates New Hospital.

On May 12, a new Memorial Hospital was dedicated at Winchester, the principal speaker at the ceremonies being Dr. Richard J. Ackart, executive director of the Virginia Hospital Service, at Richmond. The hospital first opened March 17, 1903, with 36 beds but with additions from time to time, has now been enlarged to 300 beds. It is said to be the second largest community-owned hospital in Virginia.

Dr. Ebbe C. Hoff,

Who has been engaged in research work at the Medical College of Virginia, Richmond, plans to go to England this month to receive the honorary degree of doctor of medicine from Oxford, which is being conferred on the basis of outstanding medical research projects. He received his medical degree from the Royal College of Physicians and Surgeons of London.

Dr. H. Holt Bradshaw,

Winston-Salem, N. C., professor of surgery at the Bowman Gray School of Medicine, delivered the annual J. Shelton Horsley Memorial lecture before a meeting of the Richmond Academy of Medicine on April 28. He spoke on "Ulceration of the Stomach and Duodenum". The lectureship was established by Dr. Guy W. Horsley in 1947 in honor of his father.

Virginia Obstetrical and Gynecological Society.

The Virginia Travel Club of this Society had an outstanding clinical program April 5 to 7 on their visits to Duke University, Durham, and the University of North Carolina at Chapel Hill. Operative clinics and clinicopathological conferences had been arranged and enjoyable entertainments were provided in both places. The Travel Club this year was composed of twenty-nine members and six guests.

Dr. John R. Kight of Norfolk is this year's president of the Society and Dr. Chester D. Bradley of Newport News secretary.

Dr. William A. Brumfield, Jr.,

First deputy state commissioner of health of New York, has been appointed professor and chairman of the department of Public Health and Preventive Medicine at State University College of Medicine at

Syracuse, N. Y. and is expected to assume his new duties in Syracuse about September 1st.

A native of Virginia, Dr. Brumfield was graduated from the University of Virginia in 1930, and later received the degree of Master of Public Health from the Johns Hopkins University School of Hygiene and Public Health. After public health service in several capacities, he entered the Army Medical Corps from which he was released with the rank of colonel in March 1946, when he returned to the State Department of Health of New York.

Dr. Joseph E. Barrett,

Williamsburg and Richmond, Commissioner of Mental Hygiene and Hospitals for Virginia, has been chosen winner of the good government award of the Junior Chamber of Commerce because of the forward strides made in recent years by the State hospital system. This award is made annually to a Williamsburg citizen for outstanding contribution in the field of government.

The Duke Medical Post-Graduate Course

Will be held at Duke University, Durham, N. C., June 22-25 inclusive. Registration fee is $25.00. Rooms are available in the University Graduate Dormitories and meals may be obtained on the grounds. Write Director of Post-Graduate Education, Box 3088, Duke Hospital, Durham, N. C.

The first two days will be devoted to discussions of Anesthesia. There will be lectures, demonstrations and round table discussions. The other two days will include general medical subjects, ward rounds or visits to the clinics. In addition to members of the faculty of the School of Medicine, the guest speakers are Dr. Howard M. Ausherman of the Veterans Hospital, Durham, and Dr. David A. Davis, of the University of North Carolina, Chapel Hill.

Dr. Weir Mitchell Tucker

Was elected early in May as president of the Richmond Chapter of the Mental Hygiene Society of Virginia and will take office in July.

Doctor's Office

For rent in a professional building, 1400 Colonial Avenue, Norfolk, Virginia. 2nd Floor, 4 large rooms, heat and all utilities furnished. $160 per month, immediate possession. H. W. Holland and Company, 506 Western Union Building, Norfolk, Virginia. Dial 27496 or 27704. (*Adv.*)

Wanted

Physician for the staff of the DeJarnette State Sanatorium, Staunton, Virginia. This is a psychiatric hospital of approximately 180-bed capacity. Starting salary $8,400.00 to $8,784.00 depending upon qualifications. Apply to the superintendent. (*Adv.*)

OBITUARIES

Dr. Lawrence Thomas Royster.

WHEREAS, Lawrence Thomas Royster, pioneer pediatrician, educator and writer, died at his residence in Charlottesville, Virginia, January 7, 1953, BE IT RESOLVED:

THAT the Albemarle County Medical Society has lost a beloved and highly esteemed member; that the medical profession an able teacher and clinician; the State of Virginia a wise counselor and faithful servant; the cause of children in general a devoted benefactor; and

THAT a copy of these resolutions be spread in the minutes of this Society, and a copy be sent to the Secretary of The Medical Society of Virginia.

Dr. Royster was born in Norfolk, Virginia, August 18, 1874. He received his early education at Norfolk Academy and later attended the University of Virginia where he received the degree of doctor of medicine in 1897. He received formal post-graduate training in New York, Boston, and Baltimore.

His early medical experience was in general practice in Norfolk, Virginia. He early became interested in child welfare work and founded the first Society for the Prevention of Cruelty to Children in that area.

In 1923 he was called to the University of Virginia as Professor of Pediatrics and assigned the task of establishing a Department of Pediatrics.

Dr. Royster was honored by membership in many distinguished societies and fraternities, and was a charter member of the Virginia State Pediatric Society and for over twenty-five years was a member of the State Board of Health, where he served well and faithfully.

Because of failing health in 1942 he retired as Professor of Pediatrics and Chairman of the Department of Pediatrics of the University of Virginia School of Medicine. His interest in children and in his many friends in the pediatric world never ceased until his death.

Respectfully submitted,
W. W. WADDELL, JR.
MCLEMORE BIRDSONG

Dr. Otis Lee Watkins,

Rustburg, died April 28, in a Lynchburg hospital. He was sixty-eight years of age and a graduate of the Medical College of Virginia in 1907. With the exception of a short time, he had practiced in Campbell County since. He was for several years county coroner and served in the Army Medical Corps in World War I and was a draft examiner during World War II. His wife and three children survive him.

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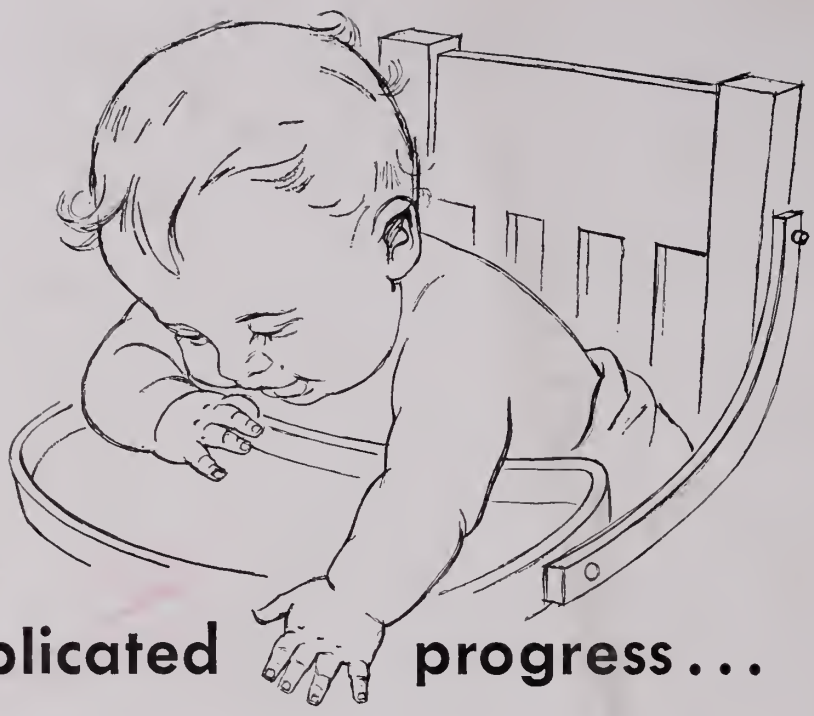
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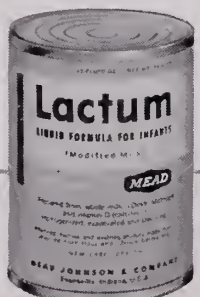
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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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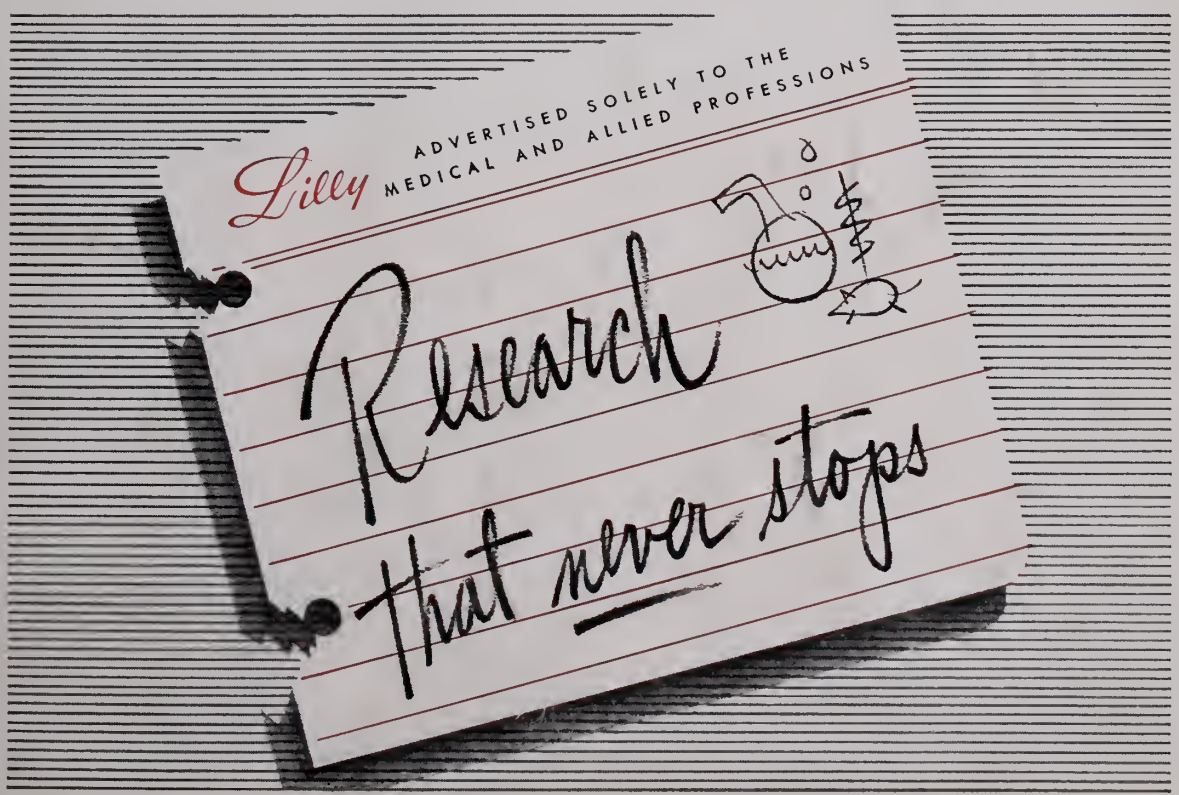
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GUEST EDITORIAL

Prevention of Kidney Stones: A Challenge to the Internist

THE passage of a kidney stone, so often ushered in by excruciating pain, and not infrequently accompanied by bleeding, is usually an event of startling importance to its victim. If it does not take him forthwith to his doctor, it leaves an impression seldom forgotten and often pathognomonically clear when brought to light in a medical history.

To the internist who hears the story, the immediate problems—relief of pain and removal of the stone or stones that may remain—are fairly straightforward. With one notable exception, stones of all types may be readily located by x-ray, and if forced fluids will not dislodge them, a surgical colleague, by snare or incision, can.

Unfortunately, the problem often rests here. The patient once "cured" has little incentive to pay for expensive laboratory tests; the busy doctor's attention is claimed by more immediate and pressing problems. This is regrettable for two reasons. First, the investigation of the cause of the stone's formation may lead the internist to an underlying and more important disease not previously suspected. Second, only by such an investigation can the internist establish the rationale for the successful prevention of further stones—indeed, he may thus be enabled to anticipate and prevent stone formation in members of the patient's family. In this essay we propose to examine briefly the causes and prevention of kidney stone formation.

In general, stone formation requires three conditions in the urinary tract: the presence of poorly soluble material, insufficient quantities of water to keep this material in solution, and, in most, perhaps all cases, a nidus (cells, fibrin, bacteria) on which the stone may start. The last two conditions favor the formation of all types of stones, and the therapeutic and preventive implications—forcing of fluids and elimination of infection* are obvious. The cause and prevention of the first will depend upon the type of stone being formed.

"Pure" stones are composed of calcium phosphate, calcium oxalate, uric acid, or cystine. "Mixed" stones are most often composed of the first two, but either of the others may form a nidus on which calcium salts are deposited.

If the patient has a stone in his possession—and they are often treasured—determination of its type is a simple matter for a chemical laboratory. If he does not, a good x-ray[1] may provide evidence almost as good.** Thus, the "snowflake" appearance of the calcium oxalate stone, the lamellated structure of the calcium phosphate stone, and the amorphous, "waxy" pattern of the cystine stone may be readily ascertaind from "in vivo" roentgenograms, whereas the uric acid stone will not show up at all against

*Permanent eradication of infection, however, is virtually never possible until all stones have been removed.

**Indeed, an x-ray of the stone itself may provide convincing evidence of its composition.

the soft tissues. If a staghorn stone is present, it is always either calcium phosphate or cystine.

The search for the cause of *calcium oxalate and calcium phosphate stones* may lead the internist to abnormalities involving the patient's bones, his parathyroid glands, his kidneys, or his dietary and drug habits.

Decreased bone formation, or osteoporosis, while it is developing, leads to hypercalcuria and often to stones. The normal serum calcium, phosphorus and alkaline phosphatase and the presence of the lamina dura about the teeth serve to distinguish it from other metabolic bone diseases. The cause (extensive immobilization, the postmenopausal state, etc.) is often amenable to therapy.

Destructive lesions of bone often lead to stones. Tumor, originating in marrow or metastatic, or Paget's disease may be evident when sought for. In these conditions, the serum calcium may or may not be elevated; the serum phosphorus is usually normal; the serum alkaline phosphatase may be normal (myeloma) somewhat elevated (other tumor) or very high (Paget's); the lamina dura is preserved. In contrast, in osteitis fibrosa cystica resulting from hyperparathyroidism, the serum phosphorus is low and the lamina dura lost.

Hyperparathyroidism without bone disease, wherein the serum calcium is elevated and the phosphorus is low, but the alkaline phosphatase, the bones, and the lamina dura are normal, is equally capable of producing renal stones.

Renal lesions leading to hypercalcuria include "essential hypercalcuria" and "renal tubular acidosis". In both, the serum calcium is low normal, the phosphorus low. The serum alkaline phosphatase may be normal in either, or elevated in the latter, where in addition the serum chloride is elevated and the bicarbonate depressed. The renal lesion in tubular acidosis, involving as it does a failure of acidification of the urine, provides a further impetus to stone formation because of the decreased solubility of calcium phosphate at high pH. Pyelonephritis often provides conditions unusually favorable for the formation of phosphate stones. Besides supplying a nidus, it may reduce urinary citrate (and thus increase the concentration of calcium ions) and, by damage to the renal tubules or by the action of 'urea splitters,' produce a persistently alkaline urine.

Abnormally high intake or absorption of calcium may lead to hypercalcuria, and thus to phosphate or oxalate stones. Thus, it is apparent that Vitamin D in the therapy of arthritis and milk and calcium salts in the therapy of ulcer are not without danger. In the latter instance, the practice of adding alkali to the regimen even further increases the chances of stone formation. Finally, calcium oxalate stones may result from an abnormally high content of oxalate (beet greens, rhubarb, spinach, etc.) in the diet.

Uric acid stones may be indicative of an elevated serum uric acid, which may in turn point to gout. In most patients with uric acid stones, however, the serum uric acid is normal. There is some evidence that a chronic infectious disease, producing a "chronic alarm reaction" may by increased destruction of lymphoid tissue predispose to uric acid stones. An abnormally high intake of purine-containing foods (pancreas, thymus, liver, etc.) may lead to increased urinary uric acid, and its precipitation as a stone.

Since the urate ion is relatively soluble, uric acid stone formation, once recognized, is generally easy to prevent. One needs only to administer enough alkali to keep the urine neutral or alkaline, to limit dietary items especially rich in uric acid, and, of course, to keep the urine volume high.

Cystine stones are virtually always indicative of congenital cystinuria, a hereditary

renal disease in which a number of amino acids are excreted in excess and cystine, being the least soluble, often forms calculi.

Although the ingestion of methionine (but not, surprisingly, cystine) increases the amount of cystine excreted, this point is of little therapeutic importance, owing to the omnipresence of methionine in protein foods. However, since cystine, like uric acid, is relatively soluble at alkaline pH, formation of cystine stones may also be prevented (indeed, preexisting stones may be dissolved) by administration of enough alkali to keep the urine neutral or alkaline.

The diagnosis of cystinuria may be readily made by testing the urine for cystine*; in this way the condition may be diagnosed, and stone formation discovered or prevented, in the relatives of a patient with cystine stones.

In summary, the patient with a kidney stone presents to the internist both a valuable diagnostic clue and an unusual opportunity for preventive medicine.

Frederic C. Bartter, M.D.

[1] Albright, F. Some Medical Aspects of the Renal Stone Problem, N.E.J. Med., 217: 1063, 1937.

*To 5 cc. of urine is added: ammonium hydroxide until it is alkaline, and 2 cc. of 5% sodium cyanide. After 10 minutes, 5% sodium nitroprusside is added dropwise. A stable purple-red color is formed in the presence of cystine.

Editor's Note. Dr. Bartter is Chief of the Section of Clinical Endocrinology, Clinic of General Medicine and Experimental Therapeutics, National Heart Institute, Baltimore, Maryland, and is also Senior Surgeon, USPHS.

Floral Eponym

Welwitschia

Welwitsch, Friedrich, 1806-1872

Welwitsch was an Austrian physician and scientist. He went to Lisbon for a short visit, but became so much engrossed by the flora of Portugal that he stayed fourteen years. The genus Welwitschia is named for him.

Welwitschia mirabilis is the only species of this genus. It is found in two isolated and restricted areas of the coastal desert region of Damaraland in South-west Africa.

THE PHYSICIAN AS CITIZEN*

WYNDHAM B. BLANTON, M.D.,
Richmond, Virginia

The word *citizen* can be used correctly only in speaking of a free and democratic people. You can not be a citizen in a monarchy, in an oligarchy or in a police state. It is hard to be a citizen in a bureaucracy. The word, and the privileges inherent in it, were honored in ancient Rome and abused in Revolutionary France.

A good citizen in a democracy recognizes and accepts responsibility to his state and to his community. It is the price he must pay for his freedom. He permits no selfish ambition to divorce him from his duty as a citizen. He is willing to devote his time, energy and substance to the betterment of his community and his fellows. Without this sort of citizen-service no democracy can long survive.

Now, what of the doctor as citizen? Surely no class in the body politic should be better able to play the role of good citizen. For what class has been blessed with a better education? Using the word to imply knowledge, not only technical and scientific knowledge, but on a higher moral plane, knowledge of right and wrong. Who as a class should have a better understanding of the meaning and extent of human suffering? Who should have a heart and mind better able to assess human need? Who should be better able to chart a course of sanity through the mounting appeals that daily come to us all through the mails, who better able to steer safely between the Charybdis of ignorance and the Scylla of sentimentalism? And what group is better able than our profession to support financially public charities and eleemosynary institutions?

Let us face the facts implicit in this last rhetorical question. Once the doctor was considered a poor business man. But time marches on. The physician no longer practices an empirical art from a pair of well-worn saddle bags, which cost little and contained little. His is now a highly specialized kind of medicine which cost him years of expensive training and thousands of dollars in capital outlay to continue. Some say he has trained himself too well as a businessman, taking the cash too avidly and letting the credit go too recklessly. But without subscribing to that devastating point of view, one must admit that a profession in which the average member has an annual net income of over $12,000 cannot plead the wolf at the door. Nor can the doctor claim that charity work exempts him from giving dollars to good causes. If we admit that the doctor's collections are as good as the merchant's around the corner, we must also admit that his free work in clinic and ward and classroom is a part of his continuing education, and a part of the prestige that brings him in still more dollars. In short, the doctor, like any other citizen, must assume his share of giving to worthy causes, and I think he does.

In the long annals of time, doctors have contributed richly to all phases of civilization and culture. They have been artists, poets, historians, philosophers, geologists, explorers, soldiers, statesmen and administrators. Keats, Goldsmith, Bridges, Holmes, Locke, and Rabelais, Sir Thomas Brown and Conan Doyle, Rudolph Virchow, Leonard Wood and George Clemenceau are but a few examples. And for every such great name there have been thousands who played their dual role on a less well lighted stage. What is true of the past, is true today. We meet our confreres all over the place, discharging the manifold duties of citizens, going to the polls, debating public issues, accepting public office, prominent in church work, in the business world, on boards of banks and other institutions, acting as trustees of schools and colleges. Doctors are seen on the golf course, at the club, and at the ball game, wherever fellow citizens work and play.

In one particular phase of community work the doctor is destined, I believe, to play an increasingly important role as citizen, because of his education and training. The fact that medicine as a science concerns all the people, puts the responsibility upon the physician of educating the public in the development of the facilities needed for adequate medical care. The fact that this year, out of around 500 practicing physicians in the city of Richmond, more than 130 are taking an active part as workers and solicitors in the special gifts drive of the Community Chest, is not only indicative of the prominent part doctors are playing in such community health and welfare projects, but it is also indicative of an ex-

*Read before the annual meeting of The Medical Society of Virginia in Richmond September 28th-October 1, 1952, as one of several informal talks on the Socio-Economic Problems of Medicine.

tremely happy and logical closeness between the Richmond Academy of Medicine and the city's private and public agencies that have to do with health and welfare in the initial planning stage and in the succeeding stages of execution. Our local health department has acted for years in the enlightened belief that the strength of any public health service depends upon the good relationship it maintains to the members and purposes of our Academy. The Health Division of the Community Chest Council has always seen fit to seek and utilize at every stage of its planning the guidance of the medical profession. This willingness to seek expert advice on medical problems has given Richmond many advantages of which to be proud.

It has given to Richmond's indigent population its present model system of home care, a system which gives not only a superior type of medical service to the poor of the city, but affords the senior medical student at the MCV an exercise in extramural general practice that has been woefully lacking in medical education in the past.

On the state level we now enjoy the distinction of supporting one of the best medical examiner systems in the United States, recognized by the American Bar as one worthy to be imitated. Who gave us this system? Not the administration; not the police, not the lawyers, not even the legislature, but the medical profession, assuming the burden of medical leadership that rests upon them as citizens to mold and guide public opinion.

A multiphasic screening clinic examined more than 37,000 people for chronic diseases here in Richmond several years ago, under the approval of the U.S. Public Health Service, the local health department and the Richmond Academy of Medicine. Committees of doctors, acting with other citizens, screened the screeners, evaluated the good and bad points of the scheme, prescribed bounds, and so modified and controlled the operation of the clinic as to make it a useful demonstration rather than an inroad of socialized medicine.

The phrase "socialized medicine" has become a red flag to the medical profession. Since the recent administration would make our backyard the proving ground for socialism itself, these words should become a call to arms to the citizen doctor to take his rightful place as a leader in that field where the social impact of medicine is becoming increasingly manifest.

Summer Vacations

Don't forget to let your patients know when you plan to be away on vacation. Explain the arrangements you have made for taking care of them during your absence.

RECOGNITION OF PRE-ECLAMPSIA AND PRE-HOSPITAL THERAPY OF PRE-ECLAMPSIA*

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Toxemia of pregnancy is now the leading cause of maternal deaths in the State of Virginia. During the year 1951, thirty mothers died from toxemia as compared with nineteen from infection, and sixteen as a result of hemorrhage. In 1952 there was a definite decrease in the total mortality, but toxemia was again the leading cause of death—nineteen mothers dying as a result of this complication. In the neighboring State of North Carolina, a survey of 1,000 maternal deaths, occurring between the years of 1946 and 1951, likewise showed toxemia more frequently as the primary cause of death than any other one factor. Of those dying from other conditions, many had an associated toxemia that probably influenced the course and management of the case, and indirectly may have been responsible for some of the fatalities.

DEFINITION AND CLASSIFICATION OF TOXEMIAS

In April of this year, the American Committee of Maternal Welfare adopted a report developed by a sub-committee on the definition and classification of toxemias of pregnancy. The report is simple, concise, and a complete picture of our knowledge of the toxemias of pregnancy.

The practicing physician who is familiar with this report will find it an aid in the recognition of early toxemia. Pre-eclampsia is classified as an acute toxemia (one of the various types). To observe for one is to observe for all. Toxemias are defined as a disorder encountered during gestation, or early in the puerperium, that is characterized by one or more of the following signs: Hypertension, edema, albuminuria, and, in severe cases, convulsions and coma. Criteria for classifying a case of toxemia as described in this report is as follows:

HYPERTENSION: The presence of a systolic blood pressure of 140 mm. of mercury or above, and/or a diastolic pressure of 90 mm. of mercury or above. It is interesting to note that the Committee also describes as a criteria an elevation of systolic pressure of 30 mm. of mercury or more, and/or an elevation in diastolic pressure of 15 mm. of mercury or more. Is not this factor, the amount of blood pressure rise during a pre-natal course, a more significant means of observing abnormalities than accepting the usual level of 140/90?

EDEMA: The diagnosis of toxemia on the basis of edema alone (without hypertension or albuminuria) is to be made *only* when the edema involves the face and/or hands; when it is present in the morning and is of sufficient degree to be detected clinically, as well as by a weight gain.

A weight gain of 5 pounds in one week, together with evidence of face and/or hand edema, justifies the diagnosis of toxemia even in the absence of hypertension and albuminuria.

ALBUMINURIA: The diagnosis of toxemia on the basis of albuminuria alone (without hypertension or edema) is to be made *only* when a clean or catheterized urine specimen shows an unequivical cloud (1 plus) with a glacial acetic acid test, or 1/2 gram per 24 hours with Esbach procedure on two or more successive days,—or by any generally approved test.

PRE-HOSPITAL THERAPY OF PRE-ECLAMPSIA: Of the 1,000 maternal deaths referred to in the report, 264 showed toxemia as the primary cause. Of these 264, 110 deaths were attributed to improper management of the case on the part of the physician. A report from the Chairman reads as follows:

> "The errors in management were almost 100% the failure to hospitalize the patient. Once the patient had been admitted to the hospital, the physician as a rule handled it well with sedation, concentrated glucose, magnesium sulfate and supportive measures. However, most of this group represents patients who were carried as out-patients with rather severe toxemia."

The above comment is a clear picture of the results obtained in a situation that exists in our hospitals not uncommonly. Too often the patient with toxemia is not hospitalized until labor begins or the condition is critical. There are many physicians practicing obstetrics who are early to recognize and properly treat many of the obstetrical complications,

*Read at the meeting of The Medical Society of Virginia in Richmond, September 28-October 1, 1952, as one of the Round Table Discussions of Obstetrical and Gynecological Problems.

but fail to recognize and properly treat toxemia in its early stages. Occasionally, because of environmental, financial, and other factors, it becomes necessary to attempt treatment in the home, but this is usually met with failure and the patient is subsequently hospitalized under more adverse circumstances. Therefore, because of the tremendous mortality described above, due to the failure of the physician to hospitalize the patient, and because of the incidence of failure in home treatment, it may be concluded that once a definite diagnosis to toxemia or pre-eclampsia is established, hospitalization is not only of value but is a necessity.

Certain signs develop during the pre-natal period that suggest an impending toxemia. Of these, an increasing blood pressure and an excessive weight gain are those signs which may be detected, and the individual properly treated before reaching a state that warrants a definite diagnosis of toxemia. A weight gain of 2½ pounds or more in one week does not justify the diagnosis but is to be considered a warning. Frequent and careful examinations are essential to detect the development of these unfavorable signs. In the presence of a rising blood pressure, or excessive weight gain, or the development of clinical edema, limitation of activity is necessary. This may necessitate obtaining aid in performing household duties and refraining from participation in laborious employment and social functions.

Administration of a sedative may assist in securing an increased amount of rest. Excessive weight gain, or development of clinical edema may be controlled by a more rigid diet, restriction of sodium intake, limitation of fluids or administration of one of the diuretics, such as ammonium chloride. *Above all, rest is the most important.*

Summary

In summary, it may be stated that pre-eclampsia, one of the toxemias, is a complication of pregnancy. Criteria for establishing a diagnosis of toxemia is based on the development of hypertension, edema, or albuminuria. Certain signs may be detected by careful and frequent observation of the patient that suggest an impending toxemia, and upon the early institution of therapy a toxemia may be prevented. But once a diagnosis of toxemia is established, an obstetrical complication does exist and hospitalization is indicated. There is no satisfactory pre-hospital therapy for pre-eclampsia.

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A.M.A. Distributes 3 Million Pieces of Literature.

A.M.A. Public Relations Director Leo Brown reports that more than 3,000,000 pieces of literature were distributed to physicians and the public during 1952. The literature represented 17 pamphlets produced by the A.M.A. and 11 reprints from other publications.

Of the A.M.A. literature, the pamphlet, "Your Money's Worth in Health," got the widest distribution with 1,155,780 copies. "A Doctor For You" followed with a distribution of 412,409 copies. Reprints from other publications totaled 855,397, with the pamphlet, "A Doctor As Near As Your Telephone," from the Reader's Digest, numbering 239,053 copies.

ADENOCARCINOMA OF THE URINARY BLADDER

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Adenocarcinoma of the bladder is a rare tumor. Eisendrath and Rolnick have pointed out that ninety-five per cent of bladder tumors are of epithelial origin. Of this number only 1.8% are adenocarcinoma. Dean and Ash reported 69 cases of adenocarcinoma in 5,324 tumors of the bladder. In a review of the literature, Loeb was able to find 50 cases of mucinous adenocarcinoma and added one of his own. However, he failed to include a case reported by Bandler and Roen and one by Armstrong and Harlin.

Adenocarcinoma of the bladder occurs in both sexes but is seen more frequently in the male. Armstrong and Harlin state that 75% of cases occur after the fifth decade. Abeshouse reports an adenocarcinoma in a patient twenty-three years of age who had exstrophy of bladder. Bandler and Roen's patient was an eighty-six year old male.

Pathogenesis: There are two types of adenocarcinoma—one secretes mucin, the other does not. The mucinoid type occurs more frequently. Most authors in their reports include both types and no effort is made to separate the two types.

Under normal conditions, the bladder does not possess glandular structures that may serve as foci other than in the trigonal region where subtrigonal glands are normally found. To explain the origin of glandular tumors several theories have been formulated and from such we may arrive at some conclusion as to their origin.

It is the opinion of most authors that these glandular tumors have their origin in one of three ways: (1) Those that develop from urachial remnants and misplaced germinal cells inclusions of the gastrointestinal tract. (2) Those that arise from glands which are found in the trigonal region, and (3) Those that result from metaplasia of the bladder epithelium which is probably due to chronic inflammation or irritation with formation of cell nests of Brunn, cystitis cystica, and cystitis glandularis which are considered by many to be precancerous lesions.

The most common site of adenocarcinoma is the dome of the bladder. Because of this location, its origin is best related to the remnants of the urachus. It was found by Mollendorfs, and confirmed by Begg, that often the fundic portion of the normal bladder contains tubular structures in the region of the median umbilical ligament which represents the remnants of the urachus. This finding was also noted by Saphir and Kurland, who found these tubular structures in nine of ten normal bladders.

The urachus and remainder of the bladder except the trigonum, which is of mesodermal origin, is of entodermal origin arising from the primitive hindgut. The cloaca also gives rise to the rectum and is lined by a single layer of cuboidal cells. In the 5.3 mm. embryo the cloaca is divided into a dorsal (rectum) and ventral (bladder and urachus) portion by the down growth of the urorectal septum. Eventually, the cuboidal epithelial cells of the dorsal portion become cylindrical and secrete mucin, forming the normal intestinal epithelium of the rectum. The cuboidal epithelial cells of the ventral portion eventually becomes stratified into transitional epithelium to form a waterproof lining for the bladder. The epithelial lining of the urachus, which has no particular function, remains as cuboidal. Contrary to the views of many authors, the urachus is not a part of the allantois but is derived solely from the cloaca, as proven by Begg. Also, the urachial canal does not normally become a fibrous-like structure after birth nor does it extend from the umbilicus to the bladder. Begg has shown that the urachial canal is never obliterated by fibrous tissue but may become inpervious in parts due to its own cellar debris derived from its epithelial lining. He also demonstrated that its lumen is in direct communication with the bladder in 33-1/3% of cases and that normally the urachus descends with the bladder and extends only 1/3 of the way to the umbilicus, being connected to it by the fibrous cords from the obliterated umbilical arteries.

As mentioned above, the urachus remains as a primitive organ lined with cuboidal cells which possess the potentiality to differentiate into glandular or transitional epithelium. Since the bladder and rectum have a common origin from the cloaca, it is reasonable to assume that as development takes

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place, cell nest of intestinal epithelium may be retained within the bladder portion of the cloaca and later undergo malignant degeneraion, giving rise to adenocarcinoma in other portions of the bladder. Francois-Lacene and Hovelaque held this view and Gayet, after studying fifteen cases of adenocarcinoma occurring in exstrophic bladders, concluded that they arose from intestinal epithelial cell inclusions as there was arrested development of the mucosa which probably results because the bladder does not assume the role of a reservoir.

As stated above, no glandular structures are to be found in the normal bladder mucosa, other than in the region of the trigone. Albarron in 1862 described mucosal glands in the region of the trigone and bladder neck. The presence of these glands has been confirmed by other investigators who believed their origin to be from aberrant prostatic tissue. H. H. Young concluded that the glands occurring in the region of the trigone of the normal bladder resembled the glands of the prostate and posterior urethra, and that adenocarcinoma of the bladder resembled adenocarcinoma of the prostate. Keyes was of the opinion that such tumors arising from the base of the bladder have their origin from these glands. A similar view is held by Ash and Abeshouse.

Adenocarcinoma in the dome and about the trigone and bladder neck can be explained by one of the two above theories, but those occurring in other portions of the bladder cannot readily be explained by these theories; therefore, it is necessary to look for a further explanation.

The most logical explanation and one that is supported by an abundance of clinical and pathological material is that of metaplasia of the bladder epithelium to form glandular structures which logically should develop in that portion of the epithelium which possesses this potentiality, that is the trigone. It is known that bladder mucosa when stimulated by chronic inflammation or irritation may result in cystitis cystica, follicularis and glandularis. Giani was able to reproduce these lesions in the bladder of laboratory animals by using various irritative stimuli. Patch and Rhea were able to trace the formation of cell nest of Brunn to cystitis cystica and glandularis arising from the mucosa of an exstrophied bladder and were of the opinion that cystitis glandularis had the potentiality to develop adenocarcinoma.

It is generally agreed that metaplasia of the bladder mucosa to develop cystitis cystica and cystitis glandularis has as its chief etiological factors, chronic inflammation or irritation. These lesions develop first by proliferation of the inferior layer of the bladder epithelium to form peg-like buds projecting into the submucosa. These peg-like buds were first described by Limbeck and Brunn and are commonly known as Brunn's cell nests.

Stairk and Zuckerhandl were the first to advance the theory that cystitis glandularis could undergo further changes into adenocarcinoma and presented a case in support of their theory.

The above theories refer only to the origin of primary adenocarcinoma occurring within the urinary bladder. Of course, adenocarcinoma may invade the bladder from neighboring organs that contain glandular epithelium, such as the uterus, rectum, intestines, prostate, seminal vesicles, etc., and may present some question as to whether or not the tumor is of primary or secondary origin. However, by a careful history, physical examination, laboratory studies, and X-ray examinations, these sites of origin may be excluded.

Case Reports

Case I. H. T., a 27 year old white male was first admitted to McGuire V. A. Hospital in August, 1948, complaining of terminal hematuria for some three months. He had consulted his local physician prior to his admission and was cystoscoped on two occasions and fulguration was attempted but the patient objected because of pain. His physical examination was essentially negative except that the prostatic secretion was loaded with pus cells. Cystoscopic examination did not reveal evidence of recent fulguration, but the posterior urethra was inflamed. Hematuria was not present during this admission and he was discharged with a diagnosis of chronic prostatitis and posterior urethritis. He was not seen again until one year later at which time he was admitted with the same complaint, which he stated came back shortly after he was discharged and had been present intermittently for the past eleven months. His physical examination was again negative except for an infected prostate. Cystoscopic examination on this admission revealed a severe posterior urethritis with papilloma formation at the bladder neck. These were removed transurethrally and the pathological report was chronic inflammatory papilloma.

He was readmitted one year later, two years from

the time of his first admission complaining of terminal hematuria with burning and smarting. Cystoscopic examination revealed a large pedunculated tumor arising in the dome of the bladder. A biopsy was taken and reported as adenocarcinoma. At operation the urachus was found to be attached to the bladder in the region of the tumor. The entire dome of the bladder was removed with the tumor. The pathological report was the same, adenocarcinoma containing mucin (Fig. 1). His post-operative course was uneventful and he was discharged some three weeks later to have a follow-up examination in sixty days.

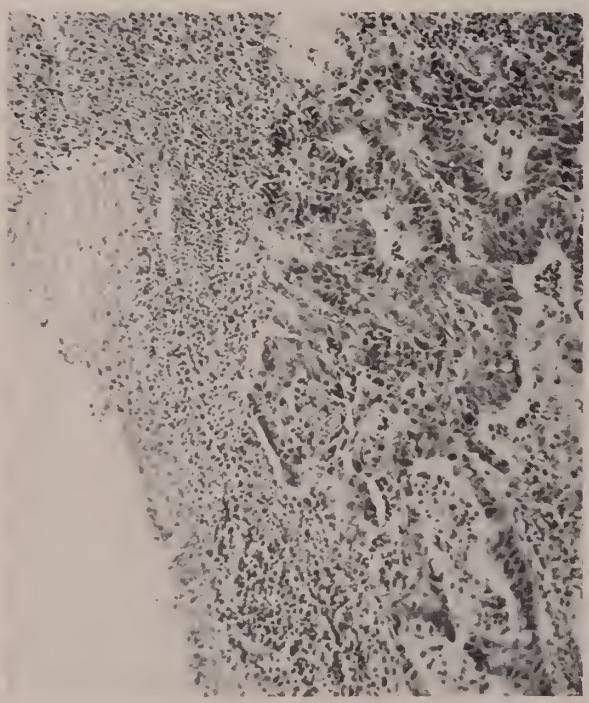


Fig. 1.—(Case 1) Adenocarcinoma of bladder (H & E Stain). Note submucosal inflammatory reaction and hyperplasia of intact mucous membrane.

However, this patient was in the Naval Reserves and was called back to active duty shortly after discharge from the hospital and served for eighteen months. Upon discharge from the Navy he reported back to this hospital in March, 1952, and cystoscopic examination revealed a small recurrent tumor in the dome of the bladder in the old scar of the previously excised bladder. Subtotal cystectomy was again carried out and he was discharged in good condition. Cystoscopic examination after nine months failed to reveal any evidence of recurrence. He is being followed in our Clinic.

Case II.—R. H. This 61 year old colored male was admitted to McGuire V. A. Hospital January 10, 1951, complaining of difficulty in voiding since July, 1950. He had occasional hematuria with nocturia 4-5 times and loss in force and size of stream. Physical examination showed an essentially normal colored male except that on rectal examination a hard nodular mass was felt just above the prostate and extending into the region of the bladder. Laboratory studies showed pus and blood in his urine with a normal acid and alkaline phosphatase. However, excretory urograms and K.U.B. X-rays revealed bilateral hydronephrosis and hydroureter. On cystoscopic examination there was a large median lobe of the prostate and just beyond the median lobe in the bladder a tumor mass was noted which on biopsy revealed adenocarcinoma with marked production of mucin (Fig. 2).

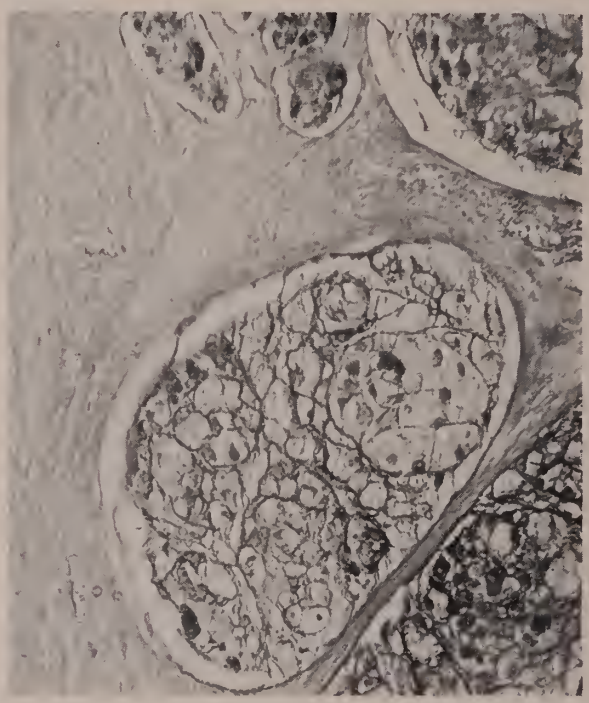


Fig. 2.—(Case 2) Adenocarcinoma of bladder (P.A.S. Stain). Note marked mucin production.

On January 17, 1951, at operation, a tumor mass was found in the floor of the bladder involving both ureteral orifices. The tumor was removed by loop cautery and the base fulgurated. His post-operative course was noneventful and he was discharged February 8, 1951, to be followed in the Clinic. He was checked in April and given 7600 Gamma Roentgens. Following the radiation therapy his bladder symptoms became worse and within three weeks X-rays

demonstrated the left kidney to be non-functioning and the right almost obstructed. A right nephrostomy was performed in May, 1951, following which the patient's symptoms improved and he was discharged in June.

Since his discharge he has been followed in our Clinic. However, the tumor mass of the bladder has steadily increased in size as determined by rectal examination. He has received 25 mgms. of stilbesterol daily.

Case III.—J. C. D. This 52 year old white male was admitted to the Urological Service on January 10, 1952, because of intermittent hematuria over a period of two years. He was seen by several urologists who told him he had kidney stones. Physical examination was essentially normal. Laboratory studies revealed pus and blood in his urine. X-rays

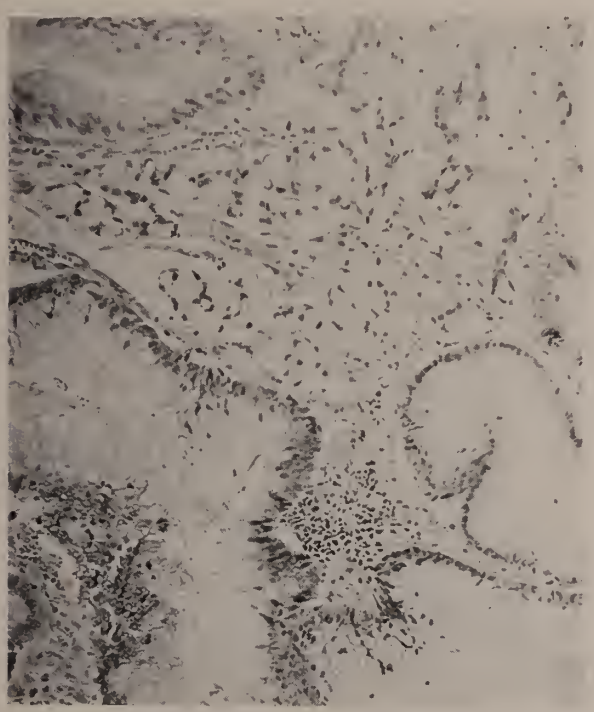


Fig. 3.—(Case 3) Adenocarcinoma of bladder (H. & E. Stain).

showed bilateral nephrocalcinosis. Laboratory studies failed to demonstrate evidence of hyperparathyroidism. Cystoscopic examination was performed and a large tumor mass was seen at the dome of the bladder and a biopsy taken was reported as adenocarcinoma with mucin (Fig. 3). On January 24, 1952, a subtotal cystectomy was carried out with what was thought to be an adequate margin, but pathological report showed infiltration to the cut edge. Bilateral ureterointestinal transplant and total cystectomy was carried out on February 28, 1952, and his first week post-operative course was satisfactory. After this, he began to have symptoms and signs of intestinal obstruction and his abdominal wound ruptured. The surgical service concurred in the diagnosis of intestinal obstruction. Immediate laparotomy revealed two portions of the small bowel to be obstructed. These were relieved and his abdominal wound repaired with wire stay sutures and cotton. His immediate post-operative course was satisfactory but about eight days later he began to have distention with the passage of fecal material from his abdominal wound. His progress was then steadily downhill and he expired on March 18, 1952. A post-mortem revealed a fecal fistula and generalized peritonitis probably caused by a suture which passed through a loop of ileum. The transplant had healed and there was no evidence of leakage or malfunction.

Comment

Because of the location (dome of bladder) of the tumors in Cases 1 and 3, one would probably assume that these tumors had their origin from cell remnants of the cloaca. But on closer analysis, it is found that in Case 1 there was a history of extreme trigonitis and posterior urethritis with fulguration of inflammatory papilloma on two occasions. In Case 3 nephrocalcinosis was present with evidence of long continued gross urinary tract infection. Therefore, it is entirely possible that the tumors in Cases 1 and 3 resulted from metaplasia as a direct result of chronic inflammation and irritation.

The tumor in Case 2, occurring in the base of the bladder behind the trigone in a region where glandular structures are normally absent, also probably resulted from metaplasia due to chronic bladder infection accompanying prostatic obstruction. This case was of further interest as on examination of the tissue several sections resembled the glandular structure found in adenocarcinoma of the prostate, while others demonstrated the presence of glandular epithelium containing mucin producing cells. It will be recalled that the trigone of the bladder distal to the ureteral opening and the posterior urethra as well as the prostate are of mesadermal origin. The remainder of the bladder and posterior urethra below the ejaculatory ducts are derived from entoderm. This is well exemplified by the case of a 22 year old colored male who on five occasions had undergone transurethral fulguration and excision of inflamma-

tory tissue in the posterior urethra due to severe seminal vesiculitis.

Microscopic study of this tissue which had been removed from the region of the seminal colliculus, the epithelium above being of mesodermal origin, that below of entodermal, revealed glandular adenomatous tissue resembling prostatic tissue and other areas with mucin producing glandular areas (Fig. 4).

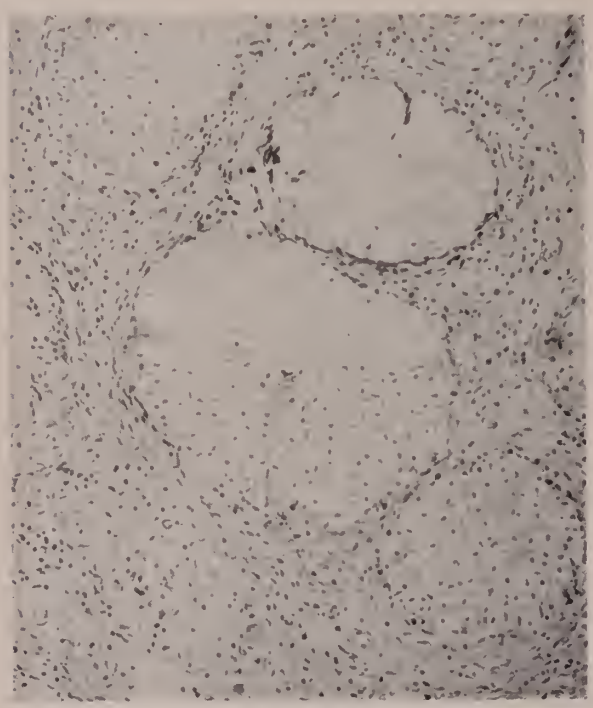


Fig. 4.—Adenomatous and early squamous cell metaplasia of posterior urethra (H & E Stain). Note central cell mass, the upper half consisting of mucoid cells and lower half of modified transitional cells.

Connery noted pyuria in 88.8% of 45 patients with leukoplakia; 20% of whom developed squamous cell carcinoma of the bladder. It is his opinion that chronic infection is an essential factor in the chain of events leading to the metaplastic changes resulting in leukoplakia and squamous cell carcinoma in many cases.

The effects of estrogen therapy or orchiectomy on prostatic cancer has been known for several years. Lich and Grant in 1949 suggested the use of stilbesterol on those tumors of the bladder that resembled adenocarcinoma of the prostate. The case cited above with glandular metaplasia who had been suffering from 1941 to 1948, has been relieved of all difficulties for the past three and a half years after receiving estrogen therapy for a period of three months.

SUMMARY

1. Three cases of adenocarcinoma of the bladder, all of which produced mucin, have been presented.

2. There are three generally accepted theories as to the origin of adenocarcinoma of the bladder: (a) Those that arise from the remnants of the urachus and embryonal cell inclusions; (b) those that are of mesodermal origin, arising from glands that are normally found in the trigonal and bladder neck regions; (c) those that arise from metaplasia of the bladder epithelium to form cell nests of Brunn, cystitis cystica, and cystitis glandularis which undergo further metaplasia to adenocarcinoma.

3. Chronic infection and irritation was present in all cases reported and probably plays a major role in the metaplastic changes, viz., cystitis cystica and glandularis that precede cancerous changes in the bladder mucous membrane.

4. Glandular metaplasia may resemble the glandular elements of the prostate or of the rectum, depending on its site of origin.

5. The type of adenocarcinoma should be determined and if of mesadermal origin resembling adenocarcinoma of the prostate, endocrine therapy and/or orchiectomy may be of benefit.

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Report ACTH Aids in Snake Bite Treatment.

Cortisone and corticotropin (ACTH) are valuable adjuvants in the treatment of snake venom poisoning, it was reported in the May 16 Journal of the American Medical Association.

Three cases in which children bitten by poisonous snakes recovered following cortisone or corticotropin therapy, in addition to standard treatment for such bites, were reported by Drs. William W. Hoback and Thomas W. Green, of the Clinch Valley Clinic Hospital, Richlands, Va.

"We have been impressed by the pronounced decrease in morbidity in these patients, as compared with 11 others seen in the last three years who did not receive cortisone or corticotropin," they stated.

In the three cases described by the doctors, the swelling, pain and elevated temperatures resulting from the bites subsided within a few hours after administration of the hormone drugs. Recovery occurred within a few days.

"The effectiveness of cortisone in these patients is probably due to its remarkable ability to inhibit local tissue reactivity to foreign protein [snake venom] and its symptomatic effects on pain and fever," the doctors stated. "An additional indication for cortisone or corticotropin therapy (not encountered in these patients) is the frequent generalized urticaria [hives] from the snake venom and from antivenom, especially in cases in which it is necessary to administer additional antivenom.

"It is noteworthy that all these patients were five years old or younger, and a generally poor prognosis would have been expected, because of their age and size.

"It is possible that in such a situation these agents may be life-saving."

CESAREAN SECTION
PRESENT DAY TRENDS WITH REPORT OF CASES

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Cesarean section is the delivery of a child from the uterine cavity by means of an incision made through the abdominal and uterine walls. This term cannot properly be applied to the delivery of an ectopic abdominal pregnancy, nor to delivery through the vagina following vaginal hysterectomy.

The historical background and development of Cesarean section is both long and interesting. The exact origin of the name Cesarean section is obscure. During the reign of Numa Pompilius of Rome, a law was formulated requiring the excision of unborn babies from women dying late in pregnancy. This law was known under the Roman Kings as "lex regia" and later under the emperors as "lex caesarea". This being the most spectacular of the laws of the Empire, the term cesarean operation or section was presumed to have originated from this and it is now generally accepted as the most probable origin for the present name of this operation.

The operation on living patients was by no means unknown at that time, but had been mentioned in the Talmud and other ancient writings. The popular belief that the operation was so-called because Julius Caesar was supposed to have been born by this method, is unfounded. The history of the development of the operation through its various phases and refinements in technic through the years, is of the greatest interest. In this presentation no attempt can be made to recount the entire developments, but certain historical features have a direct bearing on variations in technic of the several different types of cesarean sections now used for different sets of conditions and indications.

Williams[2] and Stander[3] have discussed five developmental periods in this operation.

The first of these is that now ancient time during which operations were performed on living women but mostly those done on corpses under the *lex regia* and its successor, *lex caesarea*. Even today, post mortem cesarean sections are occasionally done under exceptional circumstances.

The second period began in the year 1500 and continued to the latter half of the last century. Reports of cesarean section on living women were common during this epoch, although uterine sutures were not used, and the mortality from hemorrhage and infection was appalling. Many of the successful cases reported during these three and a half centuries seem to have been cases of advanced abdominal pregnancies in which no uterine incision was required.

Rousset in 1581 and Renaud in 1637 published complete works on cesarean sections with records of successful cases. Guerriot found records of forty such operations in Paris from 1800 to 1870, but all the patients died. At that time, the use of sutures was still being debated.

The third period began in 1876 when Porro of the University of Milan advocated the amputation of the body of the uterus following cesarean section and the cervical stump sutured or skewered into the lower angle of the abdominal wound. Hemostasis was accomplished by means of an encircling wire snare. With so little knowledge of antisepsis or aseptic surgical technic, this procedure was a notable advance in lowering mortality from hemorrhage and infection. The present day operation known as cesarean hysterectomy or Porro cesarean section derives its name from this pioneer.

The fourth period began in 1822 when Sänger described an accurate method of suturing the uterine wound and thus conserving the organ for future pregnancies. Thus with this advance and increased knowledge of aseptic surgery, this operation became fairly safe and was known as the "conservative cesarean section", as distinguished from the Porro or radical cesarean section. Sänger is therefore the father of the present day "classical cesarean section".

The fifth and present period began in 1907 when Frank of Cologne undertook what was termed an extraperitoneal cesarean section, but his operation opened the peritoneal cavity and was actually not a true extra-peritoneal section. Latzko in 1909 first described his technic for extraperitoneal section, whereby he carefully dissected up the bladder peritoneum from its lateral attachments on one side until the lower uterine segment was exposed for incision and delivery of the child. However, in a large percentage of cases, the peritoneum was inadvertently torn open and the operation was technically difficult, but his

results were good. Krönig contended that the peritonealization of the uterine wound was the effective feature in the operation of Frank, and he advocated cutting through the vesical peritoneum and entering the lower uterine segment after dissecting the bladder downward. Beck's transverse incision of the peritoneum and subsequent over-lapping of the replaced flaps are important modifications of Krönig's original operation.

Thus at the present time, we have available *four main types* of cesarean section:

(1) Modification of the Porro radical operation or cesarean with hysterectomy;
(2) The classical conservative operation of Sänger;
(3) The low cervical section of Krönig with modifications, and
(4) The Latzko extraperitoneal operation and its several modifications, notably that of Waters, Norton and others.

Time will not permit this presentation to describe the technic of the various types of cesarean section in detail, but a few general statements on the four main types may be appropriate. The lower uterine or cervical section possesses many advantages over the simple classical operation. Post-operative morbidity due to leakage of lochia, post-operative distention and vomiting and peritonitis are all materially reduced. It is also quite generally maintained that rupture of the uterus during a subsequent pregnancy or labor is more prone to occur following a previous classical type of incision in the upper uterine segment than following a lower uterine incision.

An operation which is safer for the potentially infected patient or one who has been subjected to a long test of labor, should logically be safer for all patients. The low cervical operation has therefore supplanted to a large extent the classical operation in modern obstetrical practice because of the above features of safety and prevention of infection or peritonitis. DeLee, one of the modern teachers of obstetrics, has long been a staunch advocate of this operation. The disadvantages of the low cervical operation are that it is somewhat more difficult technically and requires ten to fifteen mintues more operating time than the classical operation. Such minor disadvantages for the trained obstetrician are in no sense commensurate with the many advantages and lowered mortality and morbidity of the low cervical operation.

Indications

The indications for cesarean section have been broadened as the technic and the safety of the operation have improved. Part of this change has been justifiable and advantageous with an increase in surgical skill and obstetrical knowledge. However, there has resulted, unfortunately, a radical and often disastrous attitude that cesarean section is now so safe that it may be undertaken by casual operators for the slightest of obstetrical difficulties, regardless of the training of the operator, the absence of a true obstetrical indication for operation, or the choice of the proper procedure indicated by the conditions present—all with disastrous or often fatal results for the patient. Titus[4] has shown conclusively that in those communities where this condition prevails, the highest maternal mortality rates in this country are to be found.

The greatest degree of safety is attained when the indications and the need for the operation have been recognized in advance of labor or in the earliest stages of labor. Reynolds[5] states that the morbidty and mortality following the classical cesarean section increase in direct proportion to the length of time the patient has been in labor prior to the operation. Williams[6] states that the mortality rises sharply following mere rupture of the membranes during that time.

As a general rule, the present day concept is to perform either a classical or low cervical type of section in these cases which are an elective procedure prior to the onset of labor or early in labor, and in whom potential infection is reduced to a minimum. Although the low cervical section is now more popular and has wider usage in modern obstetrical practice, the classical operation is still used in those cases in which sterilization is to be effected, or when speed in operating is of paramount importance. Those who perform the extraperitoneal type of operation, reserve them largely for a limited group of patients who are potentially or presumably infected as a result of prolonged labor and repeated examinations with doubtful technics or under adverse circumstances.

The Porro or radical type of cesarean section is at present reserved for those patients who are frankly infected at the time of operation, as shown by a history of repeated vaginal examinations, the presence of fever, rapid pulse rate, foul vaginal discharge and increased blood counts. On occasion, this type of operation is chosen for those cases of uncontrollable

hemorrhage following cesarean section, particularly cases of placenta praevia, or cases of complicating uterine tumors in whom proper contraction of the uterus or control of hemorrhage at the time of operation cannot be maintained.

The indications for the performance of any type of cesarean section may be classified in several groups, including those of maternal origin, those of fetal origin, or combination of maternal and fetal, as well as those indications arising from some pre-existing or unexpected medical entity. For many years, medical students have been taught a more or less routine group of indications for cesarean sections, but the wider application of this operation with the present day knowledge and skill, has broadened the scope of indications greatly.

Absolute indication for cesarean section exists where delivery by any other method becomes impossible, such as extreme degrees of contracted or malformed pelvis, in gigantism of the infant, or in obstruction of the pelvic cavity by large tumors. All other indications are contingent upon the fetus being alive, mature or nearly so, and not deformed. In cases of uterine death of fetus or in the presence of a monstrosity as demonstrated by X-ray other methods of delivery may be chosen which carry less risk to the mother. Cesarean section is now warranted for many maternal and fetal indications, which formerly were considered insufficient reason in view of the attendant operative dangers.

Briefly, the following indications or combinations of indications may be presented as the most frequent causes for cesarean section:

I. Contracted pelvis or deformed pelvis;

II. Cephalo-pelvic or feto-pelvic disproportion;

III. Excessive size of fetus;

IV. Tumors blocking the pelvic cavity;

V. Placenta praevia;

VI. Premature separation of the placenta;

VII. Certain cases of toxemia of pregnancy, notably pre-eclampsia;

VIII. Malpresentation of the fetus, especially in small pelvis or large infants—

(a) Transverse (c) Brow
(b) Shoulder (d) Face

IX. Prolapse of the cord with living fetus;

X. Stenosis or atresia of the genital passages, either congenital or acquired;

XI. Medical disease of the mother—

(a) Heart Disease (c) Diabetes.
(b) Tuberculosis

Other conditions that may indicate cesarean section are encountered, and upon which judgment of the attending physician must be exercised. For example, multiparae with normal or slightly contracted pelvis, with a history of repeated difficult labors and deliveries resulting in stillborn babies, should be subjected to cesarean section in many cases. Primiparous patients who are nearing the normal age of the menopause and in whom any doubtful factor exists, such as a long firm cervix or mild pelvic contractions, and in whom the successful outcome of labor may be doubtful, should be considered as candidates for this operation. A combination of maternal with fetal indications is often a deciding factor in choosing delivery by abdominal section, as, for example, a breech presentation in an elderly primipara with rigid soft parts and a small pelvis.

The time-honored dictum of "once a cesarean, always a cesarean" does not hold true. The fact that a woman has had one cesarean section does not always necessitate a cesarean section in subsequent deliveries. Provided the original operation was performed for some reason, such as placenta praevia, which does not exist in the subsequent pregnancy, and provided the post-operative convalescence was afebrile and uncomplicated, then labor may be allowed to progress in this patient with a large degree of safety, provided there are no elements of disproportion existing. Such cases are common, I am sure, in the experiences of many obstetricians.

Repeated cesarean sections may be performed on those patients in whom a constant acceptable indication exists, such as a deformed or contracted pelvis. There is a wide divergence of opinion as to the number of cesarean sections any one patient may undergo. In my opinion, sterilization is justified and indicated after two or at the most three cesarean sections. Titus states that the greatest number of sections that he has performed on one patient is five. Phaneuf[7] reports two patients each of whom had six sections. Fletcher Shaw has reported seven on one patient, and D. J. McSweeney reported a ninth cesarean section on the same patient, according to Gordon and Rosenthal[8].

In discussing the indications for this operation, the following statements should be remembered:

Cesarean section is a surgical procedure of major

importance. It should not be undertaken by the occasional operator, or without the usual facilities of a well-equipped operating room and trained assistants. While it is true that it has been successfully done, and occasionally must still be done as an emergency measure in isolated rural areas without proper facilities, any such approach to a cesarean section is likely to add to the high mortality rate which already exists from this operation. Present day hospital facilities, improved transportation and conservative obstetrical care will usually permit these patients to be cared for in a well equipped hospital and under trained personnel, with a definite lowering of fetal and maternal mortality.

The attitude that any difficult labor may be ended successfully by a cesarean section, is not that of a well-trained obstetrician. The keenest obstetrical judgment is required to determine conservatively *when* and *why* to operate, *which type* of cesarean section to select to avoid disastrous results by preventing infection before and during operation, as well as hemorrhage following it.

One of the greatest factors in the high maternal mortality rate in this country is the injudicious and unwarranted abuse of cesarean section operation.

Incidence

The incidence of cesarean section varies according to the type of patient, whether private or clinic, white, or colored. The incidence of sections varies from one to eight per cent in most large maternity hospitals in this country. Stander[3] reports that during the twenty-five years ending in 1930, the incidence of cesarean section in 13,339 deliveries at the Johns Hopkins Hospital was 1.7 per cent. He quotes Good as reporting 3.8 per cent incidence at the Boston City Hospital for the year 1929. Douglas[9] reports an incidence of 2.9 per cent at the University of Maryland in 3423 deliveries for the year 1947.

Pre-Operative Care

The presence or absence of infection, either actual or potential, at the time a cesarean section is performed, is directly related to the maternal mortality from this operation. Vaginal examination before operation should be avoided entirely or reduced to an absolute minimum, being done only under rigid aseptic precautions in order to avoid contamination and infection. Deviations from this rule may result in fatal infections.

The general physical condition of the patient is of paramount importance. Patients in whom vomiting, excessive perspiration or limited fluid intake has occurred, should be given intravenous fluids prior to operation. All post-hemorrhagic cases, such as cases of placenta praevia or premature separation of the placenta, should be given blood transfusions of properly matched and known Rh blood prior to operation, and additional such blood should be available to administer during or immediately after operation. Those cases of prolonged labor, with questionable examinations and who are febrile, should be given penicillin in doses of 200,000 to 400,000 units prior to operation.

A cleansing enema should be given whenever possible in order to reduce post-operative abdominal distention as far as possible. The bladder should always be thoroughly drained and an open catheter left in the bladder until the operation is completed. Pre-operative medication consists of atropine alone, unless one prefers a basal analgesia by nembutal or other sedatives. Morphine, dilaudid, pantopon or other narcotics are definitely contraindicated, due to their depressing action upon the fetus.

Anesthesia

The subject of anesthesia for cesarean section has long been one of much debate and divergence of opinion among various authors. In general, the anesthesia of choice for most operators is some form of general inhalation anesthesia, especially nitrous oxide and oxygen or Cyclopropane administered by a well trained anesthetist. Eastman has warned that combinations of nitrous oxide and oxygen in proportion of 85.15 produce some degree of fetal anoxemia and that a mixture of 90.10 over five minutes may produce profound fetal asphyxia.

Local anesthesia for cesarean section was strongly advocated by DeLee for many years. Beck[10] and Waters[11] among the present day authorities warmly advocate this anesthesia. A one per cent solution of novocaine, with or without adrenalin, is generally used. A highly satisfactory anesthetic is obtained by a preliminary infiltration with novocaine, followed by a very light inhalation of nitrous-oxide and oxygen until the child is delivered.

Today, spinal anesthesia has many advocates and many reports attest to its safety when properly administered in properly selected cases. As a rule 50-100 mgm. of novocaine is administered in the 2nd or 3rd lumbar interspace in 2 cc. of spinal fluid. Spinal anesthesia is contraindicated in post-hemorrhagic or

shock cases, in cases of toxemia with marked hypertension, or in cases of hypotension. The administration of ephedrine subcutaneously following injection of the spinal anesthetic and giving of intravenous fluids during the operation will help to prevent post-anesthetic shock. Post-operative pain and distention, inability to void, nausea and vomiting and respiratory complications are all reduced following spinal anesthesia, as compared to inhalation anesthesia. Cosgrove[12] has had an extensive and favorable experience with its use in obstetrics, and Thomas also endorses its use. Contraindications must be followed and the anesthetic given by, and followed by well trained personnel.

POST-OPERATIVE CARE

All cesarean section cases should be closely watched for the first 1-2 hours following operation, in order to detect the presence of hemorrhage or shock. Hemorrhage may occur from the uterus following either the classical or low cervical operation, especially in cases of placenta praevia or abruptio placenta. Administration of pituitrin or ergotrate is often needed, with manual massage of the uterus and in some instances post-operative uterine packing is necessitated. Plasma or whole blood in sufficient amounts must be given immediately to replace blood loss from the operation, to prevent shock, which may become irreversible if severe.

Liberal use of narcotics for relief of pain is desirable the first 48 hours. Morphine, codeine, dilaudid or demerol should be given freely. The urinary bladder should be emptied at frequent intervals or an indwelling catheter left in the bladder. Every attempt should be made to prevent a post-operation urinary tract infection.

Intravenous glucose solution should be given on return of the patient to her room. A 10 to 25% solution is routinely administered by Titus to all post-operative cases, and he cites the following well established rationale: (1) tone is improved so that shock and intestinal atony are thereby combated, (2) thirst is allayed and fluid intake provided, (3) the liver's detoxication action is reduced by the dextrose, (4) post-operative intoxication acidosis and nausea and vomiting are usually avoided, and (5) peristaltic activity of the bowel is restored earlier.

The usual post-operative care of the bowels, the diet, wound care and early ambulation, are all essentially the same as following any major gynecologic operation.

PROGNOSIS

The results of cesarean section vary greatly, depending upon several factors, namely: the experience and judgment of the operator, the type of operation done, the presence or absence of infection, the presence or absence of shock of the patient, the general hospital or operative facilities, and the time in labor that the operation is performed.

Holland's[13] studies have been widely quoted since they include figures from many different operators. He found in a series of 1,953 sections, a maternal mortality of 1.6 per cent in those done before labor as an elective procedure; 1.8 per cent early in labor; 10 per cent late in labor, 14 per cent after induction of labor and 27 per cent after attempts at delivery by forceps.

Courties and Fisher[14] reported 1000 cesarean sections. From 1911 to 1919, the maternal mortality in 204 sections was 10.2 per cent. During the next period 1920-1931 the mortality was reduced to 6.4 per cent. A series of 376 low cervical sections showed mortality rate of only 1.3 per cent. Morbidity was also markedly reduced in this type of operation, as compared to the classical section.

According to Irving[15] the gross mortality in this country between 1931 and 1936 was established to be 5.8 per cent by 17 authors. The present mortality in the better clinics now ranges from 1.5 to 4.5 per cent, this reduction resulting from better training and conservative judgment, the more wide-spread use of the antibiotics and sulfonamides, better hospital facilities, improved methods of blood transfusion, and the gradual replacement of the classical operation by the low cervical section. However, Titus re-emphasizes the fact that the general mortality throughout the country is considerably higher than this, and he concludes that the answer to this is the obvious and logical combination of poor obstetrical judgment and poor surgical ability.

CASE REPORTS

In a series of one thousand consecutive private deliveries, there were 41 cesarean sections performed, an incidence of 4.1 per cent. The following case reports from this series are presented briefly to illustrate a variety of indications for cesarean section, as well as certain complications which may arise:

Case I:

Mrs. R. S. H. is a white primipara, age 41, whose E.D.C. was November 2, 1946. Past history is im-

portant in that patient has been excessively obese and over-weight since puberty. Average weight has varied between 310-340 pounds. Patient had a thrombo-phlebitis of the right leg following an auto accident in 1943. Present pregnancy has been essentially normal until admission on November 29, 1946, with a blood pressure of 150/100. Under usual treatment for toxemia of pregnancy, condition improved and labor was induced on December 2, 1946. Moderately severe labor pains continued during the day and night and on the following day, after 36 hours of labor, the cervix was only 5-6 cm. dilated and the fetal head unengaged. A low cervical cesarean section was then done under nitrous-oxide and oxygen anesthesia and a large living male infant, weighing 13 pounds 8 ounces, was delivered in good condition. The post-operative course was essentially normal, the temperature rising to 100.2 on the second post-operative day and to 99.3 on the third post-operative day. The operative incision healed per primum and the patient was discharged on December 16, 1946, on the 13th post-operative day in good condition.

Diagnosis:

1. Excessive obesity
2. Elderly primipara
3. Feto-pelvic disproportion with excessive size of child
4. Test of labor with failure of engagement of fetal head.

Comments: This patient was the largest I've ever delivered and the child the largest I've ever seen or delivered. Failure of engagement of the head with normal progress of labor and the excessive size of the child precluded the possibility of a successful outcome of vaginal delivery and necessitated a cesarean section in the interest of both mother and child. Elective cesarean section in a 41 year old primipara may have been the desired approach to this case, but the large size of the maternal pelvis indicated at least a trial of labor.

Case II:

Mrs. L.O.P. is a white primipara, age 21, whose E.D.C. was March 1, 1947. She was admitted to the Lynchburg General Hospital on January 30, at eight months pregnancy because of a rapidly developing pre-eclamptic toxemia with headache, scotomata, edema and heavy albuminuria, in spite of the usual preventive treatment initiated two weeks prior to admission. In spite of vigorous toxemia treatment, including heavy sedation, hypertonic glucose, concentrated magnesium sulfate, the blood pressure rose to 200/115. The fetal head was unengaged, the cervix was long and closed. In view of this fulminating pre-eclampsia with impending convulsions, a low cervical cesarean section was done on February 2, 1947, forty-eight hours after hospital admission. Anesthesia consisted of 1% novocaine infiltration followed by nitrous-oxide anesthesia as uterus was opened. A living child was delivered in good condition. The post-operative course was normal, except for a rise of temperature to 100.3 on the first, second, and third post-operative days, following which it remained normal. The operative incision healed without drainage or infection and the patient was discharged in the 10th post-operative day, at which time the blood pressure was 132/96, the urine free of albumin and kidney function normal.

Diagnosis:

1. Pregnancy 8 months
2. Fulminating pre-eclamptic toxemia
3. Rigid cervix with unengaged fetal head.

Comment: The rapid development of a severe toxemia with impending eclampsis in a primipara at eight months, and a rigid, non-dilated cervix, necessitated cesarean section in this patient. The strain of labor or additional delay would have undoubtedly resulted in eclamptic convulsions. On follow-up, this patient continued to show a mild elevation of the blood pressure around 135/88 for one year postpartum. In spite of contraceptive measures, patient again became pregnant in 1948 and was delivered again in December by elective cesarean section near term, as the hypertension again increased with development of a moderate degree of pre-eclampsia. Sterilization was advised and carried out and the post-operative course was uncomplicated.

Case III:

Mrs. R.T.G. is a white primipara, age 20, whose E.D.C. was April 20, 1948. Pregnancy had been normal and uncomplicated. Past history is of no significance. Labor began spontaneously on April 12, 1948. and, on admission, labor pains were occurring every five minutes; the cervix was well effaced and dilated 3 cm. with fetal head presenting. Membranes were ruptured artificially at 9:20 A.M. to stimulate labor and labor progressed normally except that patient was extremely restless under analgesia,

trying to get out of bed. At 1:30 P. M. when meconium appeared in amniotic fluid and the fetal heart tones suddenly became slower and of irregular rhythm, sterile vaginal examination revealed a large loop of prolapsed umbilical cord in the upper vaginal canal and the cervix dilated 5 cm.

Immediate preparations were made for operation and at 3:15 P.M. a living female child in fair condition was delivered by low cervical cesarean section under nitrous-oxide oxygen anesthesia. The baby's condition improved rapidly and the patient's post-operative condition was excellent.

Penicillin therapy was started the day of operation and continued for three days. The post-operative course was uncomplicated, except for fever of 100 degrees on the first, second, third, and on the eighth and tenth post-operative days. The operative incision healed per primum. No evidence of incisional, renal, pulmonary or venous infection was found and the patient was discharged on the thirteenth post-operative day in good condition.

Diagnosis:

1. Prolapse of umbilical cord, intrapartum
2. Pregnancy, term with spontaneous labor.

Comment: Prolapse of the umbilical cord represents an acute obstetrical emergency, the treatment of which is usually unsuccessful, and the fetal mortality rate is extremely high. Immediate cesarean section is the treatment of choice if time and the baby's condition will permit. The restlessness of this patient is felt to be the direct cause of this complication, well after labor was in progress. Penicillin therapy was administered in view of the pre-operative examinations required. Prolapse of the umbilical cord occurs more frequently in abnormal presentations, such as breech, transverse, shoulder, or face, and more frequently prior to onset of labor. Nitrous oxide oxygen anesthesia was used as a means of saving time, every minute of which was vital to saving this child.

Case IV:

Mrs. E. A. P. is a white multipara, age 33, whose E.D.C. was April 13, 1948. The past history is significant in that this patient had five previous pregnancies—two pregnancies resulting in spontaneous miscarriages, one full term still-birth resulting from a prolapsed cord in a breech delivery, and two living full term babies. In 1945, a cholecystectomy and appendectomy were performed.

The present pregnancy was complicated by nausea and vomiting of early pregnancy, secondary anemia, hypothyroidism, acute sinusitis, excessive Braxton-Hicks contractions, and one episode of slight vaginal bleeding at the eighth month. Large varicose veins of the legs and vulva were a constant source of additional discomfort. In view of this clinical picture and the past obstetrical history, post-partum sterilization was advised.

On April 13, 1948, examination revealed the child in a direct transverse position with the placental souffle distinctly heard in the lower uterine segment. In view of this complication, which could not be corrected by external version, the patient was admitted to the hospital for elective cesarean section in view of a placenta praevia and the impossibility of a normal vaginal delivery. Hemorrhage from the lower uterine segment was definitely feared.

On April 17, 1948, a low classical cesarean section was done under spinal anesthesia, avoiding as well as possible, the extensive and large venous sinuses in the lower uterine segment. A normal female infant in good condition was delivered and the placenta was occupying the entire lower uterine segment, completely covering the cervical canal. On delivery of the placenta, there was profuse bleeding from the entire placental site, which was difficult to control by massage, insertion of hot packs, and administration of ergotrate and pitocin. The uterus was then tightly packed with four yards of gauze packing and the hemorrhage appeared controlled. Both uterus tubes were ligated and the abdomen closed in the usual manner. At the completion of the operation, blood pressure was 98/60, pulse of fair volume and 1000 cc. 5% glucose was given intravenously.

Shortly after return to her room, signs of shock appeared and blood pressure dropped to 60/40. The pulse became weak and peripheral circulation collapsed. 500 cc. citrated blood, 100 cc. blood plasma given immediately but condition became critical because of extreme shock. Vaginal bleeding through packing appeared and additional vaginal packing was of no avail. For nine hours, condition was very critical and continuous oxygen was administered. During this period, sixteen pints of whole blood were given after surgical exposure of both femoral and antecubital veins. Profound shock continued and bleeding could not be controlled. At 10:30 P.M., as a life-saving measure, a supra-vaginal hysterectomy was done, during which procedure 2000 cc. of

whole blood was given. The patient's condition gradually improved, signs of shock disappeared and two additional transfusions were given until hemoglobin was 80% on the 9th post-operative day. The temperature reached 102 on the first post-operative day, 103 on the second day, and 100 degrees on the third day. The post-operative course was then smooth and uncomplicated, the operative incision healed without infection, as well as those of the arms and groins, and the patient was discharged on the 15th post-operative day in good condition.

Diagnosis:

1. Placenta praevia, centralis
2. Transverse presentation
3. Extensive varicose veins of legs and vulva
4. Secondary anemia, acute, severe from acute blood loss.

Comments: This case represents a multiplicity of indications and complications. Avoiding operative delivery was deeply desired due to extensive venous involvement, but the complicating placenta praevia and transverse presentation necessitated such procedure. The shock was the most profound ever seen to recover. The fact that this patient was a type II, Rh positive, was vital in her recovery, since 32 donors were available and matched in a short time. Hysterectomy was decided upon as a last resort in spite of profound shock, since hemorrhage could not be controlled in any other manner. Complete and cheerful cooperation and perseverance of six consultants, the laboratory, nursing and operative staffs must be credited with saving this patient's life.

Case V:

Mrs. C.M.L., a R.N., white multipara, gravidarum II, age 35, whose E.D.C. was August 17, 1948. Pregnancy was uncomplicated, except for a tendency to constant Braxton-Hicks contractions during last four months, requiring administration of corpus luteum hormone.

Past history was essentially negative, except for the obstetrical history. At the time of patient's first pregnancy in 1941, examination revealed the presence of a double cervix and bicornate uterus. The two distinct cervices were quite small and separated by a thick band of fibrous tissue. Because of this finding the first pregnancy was terminated at term by an elective cesarean section, since it was felt that normal delivery by the vaginal route could not be anticipated.

On August 12, 1947, a repeat cesarean section was performed under spinal anesthesia and a living male child delivered in good condition. Examination showed the uterus to be completely divided into two separate cavities by a septum extending from the fundus to the cervix, this being a double uterus, rather than a bicornate type. In view of this congenital anomaly and the second cesarean section, sterilization was done by ligation of both uterine tubes, this having been discussed with the patient and husband prior to operation.

The post-partum course was normal and afebrile except for a rise of temperature to 101 degrees on the first post-operative day. The incision healed per primum and patient was discharged on the twelfth post-operative day in good condition.

Diagnosis:

1. Congenital deformity of uterus consisting of double uterus and cervix
2. Repeat cesarean section with sterilization.

Comments: There was a constant and permanent indication for abdominal delivery in this patient due to the congenital anomaly of the uterus resulting in atresia of the birth canal, and sterilization was felt justified after the second operation.

Case VI:

Mrs. W.G.M., a white multipara, gravidarum II, age 27. The E.D.C. was September 4, 1947, and her pregnancy had been entirely normal until August 21, 1947, at which time patient had a moderately severe painless vaginal hemorrhage at home and was admitted to the hospital for observation and treatment. All bleeding ceased, and the patient's general condition was good, and with selected donors matched and typed and on call, the patient was allowed to return home. Her condition remained normal until the night of September 1, at which time a second mission, painless vaginal hemorrhage occurred at home during sleep. Patient was immediately admitted *via* ambulance and prepared for cesarean section and blood was drawn from three donors. One unit of blood plasma was administered while patient was prepared for operation and a whole blood transfusion started in the operating room prior to operation.

Under light nitrous-oxide oxygen anesthesia, a midline incision was made as rapidly as possible and the uterus opened by low cervical cesarean section incision. On opening the uterus, the placenta was encountered in the entire lower uterine segment and

completely covered the cervical canal. Bleeding from the large venous sinuses in the lower non-contractible portion of the uterus was severe. The placenta was delivered first, followed by the delivery of a living male infant in very good condition. All visible sinuses were clamped, the uterus massaged briskly and tightly packed with large hot gauze packs. Ergotrate was given intramuscularly and 1 cc. of pitocin was injected into the uterine wall. However, bleeding was uncontrollable and the patient was rapidly approaching the stage of shock, with rapid pulse, and a sharp drop in blood pressure. In view of this condition, it was felt that the only method for control of the severe hemorrhage was by supravaginal hysterectomy, which was carried out in the usual method as rapidly as possible, with plication of the round and broad ligaments to the cervical stump and peritonealization by the bladder flap of the peritoneum. The abdomen was closed in the usual manner without drainage and the patient given a second transfusion on return to her room. Her condition improved rapidly following the second blood transfusion and all signs of shock disappeared.

On the second post-operative day temperature rose to 103 degrees followed by a chill of moderate severity, which was felt to be due to a delayed transfusion reaction. The following day the temperature again rose to 101.2, but remained normal thereafter. The hemoglobin was 62% at this time in spite of the previous two blood transfusions, and a third transfusion was given on the 7th post-operative day.

The post-partum course was otherwise afebrile and uncomplicated, the operative incision healed per primum and the patient was discharged on the fifteenth post-operative day in good condition.

Diagnosis:

1. Placenta praevia centralis
2. Post-operative uterine atonia with acute hemorrhage and shock
3. Cesarean hysterectomy for uncontrollable hemorhhage.

Comments: Hysterectomy was necessitated as a life saving procedure in this case. Ordinary procedures to control hemorrhage were ineffectual. Preoperative preparations for available whole blood and the administration during the operation, probably prevented the development of fatal shock.

Case VII:

E.L., a colored primipara, age 35, whose E.D.C. was June 20, 1947. Past history is significant in that patient had a luetic infection some years ago with adequate treatment, but Wassermann remained positive in spite of continued treatment.

The prenatal course was uncomplicated and the patient was admitted to the Lynchburg General Hospital at 7:00 P.M. on June 19, 1947, following spontaneous rupture of membranes and onset of labor pains. Presentation was L.S.A. with the breech unengaged. Paraldehyde analgesia was administered and active labor pains continued throughout the night and the following day without progress. At 2:00 P.M. a sterile vaginal examination revealed a dilation of the cervix of about 3 cm., with the breech still un-engaged, and lying in the left iliac fossa. Under 100 mgm. of novocaine in the third lumbar interspace, a low cervical cesarean section was done and a living female child in good condition was delivered. The post-operative course was uneventful. The temperature was 99.2 on the first post-operative day, and 99.3 on the second post-operative day, following which it remained normal. The operative incision healed without infection and the patient was discharged on the twelfth post-operative day in good condition.

Diagnosis:

1. Pregnancy term in elderly primipara
2. Cervical dystocia with failure of engagement
3. Breech presentation.

Comments: This case presents a typical example of an indication which at times necessitates operative interference. Had the breech engaged and normal progress of labor ensued, then delivery per vaginum would have been the procedure of choice. Breech presentation in elderly primiparas often results in a dystocia which requires cesarean section for successful termination of labor.

Case VIII:

Mrs. W. W. C., Jr., was a white primipara, age 27, whose E.D.C. was July 22, 1947. The past history was significant in that the patient received a fracture of the pelvis in an automobile accident in 1944. The prenatal course was normal throughout. X-ray pelvimetry on July 1, 1947, revealed a marked asymmetry of the pelvic inlet with marked shortening of the right oblique diameter and a narrowing of the fore-pelvis.

In view of this permanent pelvic deformity, normal labor at full term was impossible and elective cesarean section near term was advised. On July 21, 1947, a low cervical cesarean section was done

under 100 mgm. of novocaine intraspinally and a living female child in good condition was delivered. The post-operative course was normal and afebrile, the operative incision healed without infection, and the patient was discharged on the twelfth post-operative day in good condition.

Diagnosis:

1. Post-traumatic pelvic deformity with obliquely contracted pelvis
2. Cephalo-pelvic disproportion

Comment: As in this case, all cases presenting a history of pelvic fracture should have an X-ray taken before the onset of labor, regardless of the external measurements obtained. In some cases, the pelvic inlet deformity is minimal or neglible and normal labor may ensue. However, rather marked degrees of contractions may be present, without external evidence of deformity. Elective cesarean section before labor is always desirable in those cases requiring operative delivery.

Case IX:

Mrs. W. H. R. was a primipara, age 25, whose E.D.C. was October 16, 1948. The prenatal course had been normal and uncomplicated. Patient was admitted to hospital on October 9, 1948, one week prior to term, following spontaneous rupture of membranes and the onset of mild uterine contractions. Contractions ceased entirely after admission, but abdominal examination revealed an unusual presentation and position. Abdominal X-ray was taken and showed an unusual compound presentation of the mid-dorsal spine of the fetus with a prolapsed hand, the fetal head and breech occupying the uterine fundus, the uterus being tight and amniotic fluid gone, version could not be done.

A low cervical cesarean section was done under 100 mgm. of novocaine intraspinally and a living female infant delivered with great difficulty due to the position in the uterus.

On the first post-operative day, the temperature rose to 102 degrees and penicillin therapy was begun. The temperature remained normal until the sixth post-operative day when fever of 100 appeared. The following day, the operative incision was dressed and the skin sutures removed, and a large subcutaneous abscess was opened which contained a large amount of thick, foul smelling pus. Wound irrigation and drainage was initiated and trisulfanyl and streptomycin administered. Smear from the wound showed gram positive cocci, and both gram positive and gram negative bacilli. Culture of the pus showed gram streptococci, but the gram negative organism did not grow. The temperature remained normal, and the incision gradually ceased draining under daily irrigation. The patient was discharged on the twentieth post-operative day in good condition.

Diagnosis:

1. Pregnancy term, compound presentation
2. Post-operative wound infection.

Comment: A similar presentation of the fetus had never been encountered by the author. Premature rupture of the membranes often precedes an abnormal presentation, but this occurrence also prevents satisfactory or successful external version. The etiology of the massive wound infection is not known, since this patient was not considered even a potential infection, no examinations having been made prior to operation.

(Note: On post-partum examination at six weeks, the pelvis was clear, except for moderate sub-involution of the uterus. One month later, the patient felt a painless mass in the right lower quadrant and presented a normal temperature and blood count. However, after surgical consultation, a laparotomy was done and a large abscess involving a ruptured appendix and the right ovary was encountered.)

Case X:

Mrs. R.C.S. was a primipara, age 42, whose E.D.C. was July 5, 1948. The past history was of no significance. The present pregnancy was complicated by the presence of uterine fibromyomata, which at times produced some pain and tenderness. The patient was admitted to the hospital on June 29, one week prior to full term, for pre-operative preparation, including blood matching and vaginal preparation, since elective cesarean section was chosen in view of this patient's age, the complicating fibroid tumors, and the uncertainty of vaginal delivery.

On July 2, 1948, a low cervical cesarean section was done under 100 mgm. of novocaine intraspinally and a living female infant was delivered in good condition. The uterus contracted firmly with minimal blood loss and no attempt at multiple myomectomy was made. The post-operative course was normal and uncomplicated, the temperature rising to 100 degrees on the second post-operative day, and remaining normal thereafter. The operative incision healed without infection and the patient was discharged on the twelfth post-operative day in good condition.

Diagnosis:

1. Pregnancy term, elderly primipara
2. Fibromyomata of uterus

Comments: In view of the patient's age, the presence of uterine tumors and the uncertainty of future pregnancies with the above factors, elective cesarean section was chosen. The tumors being superficial, myomectomy was not done, with the possibility of tumor involution. Post-operative examination since delivery has substantiated this hope, in that the uterus at present is of normal size and consistency with only one small subserous nodule palpable.

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Allied Arts Building.

New Books.

We list below names of some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia. These may be borrowed under usual library rules by writing the Library.

A.R.N.M.D.—Psychiatric treatment. Vol. 31, 1953.
Alexander—Operating room technique. 2d ed., 1949.
Alexander—Treatment of mental disorder. 1953.
Dameshek & Welch—Hypersplenism and surgery of the spleen. 2d ed., 1950.
Davis—Principles of neurological surgery. 4th ed., 1953.
Dollard & Miller—Personality and psychotherapy. 1950.
Gellhorn—Physiological foundations of neurology and psychiatry. 1953.
Goldberger—Heart disease: its diagnosis and treatment. 1951.
Graybiel—Electrocardiography in practice. 3d ed., 1952.
Hardy—Pain sensations and reactions. 1952.
Herbut—Gynecological and obstetrical pathology. 1953.
Joslin—Diabetic manual. 9th ed., 1953.
Nicolson—Clinical electrocardiography in children. 1953.
Pitkin—Conduction anesthesia. 2d ed., 1953.
Raffel—Immunity, hypersensitivity, serology. 1953.
St. Mary's Hospital—Operating room technic. 4th ed., 1953.
Thatcher—History of anesthesia. 1953.
Todd—Clinical diagnosis by laboratory method. 12th ed., 1953.

New Booklet for All AMA Members.

How the AMA may serve you . . . as one of its members . . . is the theme of a new pamphlet which the American Medical Association will publish this summer. Designed to acquaint members with the AMA's many activities and services, "It's Your AMA" will be mailed to every member, and, thereafter, will be sent to each new member of the Association.

SOME ROENTGENOLOGICAL ASPECTS OF PEPTIC ULCER*

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Peptic ulcer is discussed and written about as much probably as any condition encountered in medicine. In addition to all you hear and read about this subject, many of you have a personal knowledge of the disease since there is a considerable minority here present who have had proven peptic ulcers. However, if one must have some physical defect, a peptic ulcer probably is about the best one to have for several reasons. In the first place, it affords some protection against gastric carcinoma. In the second place, if one takes care of his ulcer he will incidentally take care of himself generally and in many cases will live longer because of his ulcer than he would have without it. Thirdly, it is agreed by many authorities that a person with a peptic ulcer does a better job than one of the same apparent caliber and capabilities who does not have the ulcer. Someone has stated that having an ulcer will not prevent one's being a bum but it will make him a better bum.

Peptic ulcer may be defined as an erosion of one or more of the layers of the gastro-intestinal tract occurring in locations exposed to the acid gastric juice. This definition is not 100% correct because of the fact that a few cases of peptic ulcer have been reported in individuals in whom there was a total absence of acid, but, by and large, it may be accepted.

Ulcers may occur in the esophagus. This, however, is an unusual site of peptic ulcer, the incidence being about 0.13% as found in a large number of autopsies. Gastric and duodenal ulcer are relatively common, and duodenal ulcer is about four times as common as gastric ulcer from a surgical and radiographic standpoint, but this is not true actually, as demonstrated by the fact that in a large number of autopsies there was evidence found in the stomach of healed or active ulcers in 1.5% of the cases examined. Healed or active duodenal ulcer was



Fig. 1 a and b. Three peptic ulcers in one individual one in the upper part of the stomach, the second along the lesser curvature side of the pylorus, and the third along the upper surface of the duodenal bulb. The two lower ulcers apparently were healed in two weeks. The larger gastic ulcer became larger in the two weeks, suggesting that this might be malignant; however, it proved to be benign at operation.

*From the Department of Roentgenology, and presented at a Staff Conference of the Winchester Memorial Hospital, Winchester, Va., February 20, 1952.

found in only 0.5% of the cases examined. As you see, gastric ulcer is about three times as common as duodenal ulcer but apparently many ulcers of the stomach are acute and heal in a short time so that clinical diagnosis is never made, while the duodenal ulcers are more chronic. It is unusual to have a peptic ulcer beyond the first portion of the duodenum unless some operative procedure has been carried out. There are occasional ulcers in the second portion of the duodenum where, however, no surgery has been done. Where a gastro-enterostomy has been done, marginal ulcers may occur, but I have no statistics for this location.



Fig. 2. Ulcerating malignancy in a large diaphragmatic hernia, not proven.

Next to what is learned from the patient's history, I believe that it is generally agreed that the Roentgenographic examination is the most important procedure in diagnosing and following the course of a peptic ulcer. In most cases the Roentgenologist should be able to make a diagnosis of peptic ulcer where one exists, and he should be able to give its location, and this becomes very important in profuse bleeding of an ulcer, where surgical intervention is necessary. This is difficult in some cases, and where more than one ulcer crater is seen, it is impossible for the Roentgenologist to state which one is bleeding.

Probably the most important job of the Roentgenologist in connection with an ulcer of the gastro-intestinal tract is to differentiate the benign from the malignant ulcer, and this he cannot do with certainty in any case except by repeated examinations and then



Fig. 3 a and b. What was thought to be a benign ulcer in the pre-pyloric region, and one which improved over a period of about six weeks, and then in about six months proved to be carcinoma.

he will be wrong in some cases. It has been stated that a dogmatic Roentgenologist can do a great deal of harm in regard to lesions of the gastro-intestinal tract, and this undoubtedly is true. However, I do not believe that any Roentgenologist could remain dogmatic for very long in this locality, due to the fact that we have so many dis-believers, and in these conditions, dis-belief becomes a virtue.



Fig. 4. Large gastic ulcer proven at operation to be benign. The ulcer had perforated and was walled off.

Some of the differential points roentgenologically between benign and malignant ulcers are as follows: (1) A small crater is more apt to be benign than a large one. However, an ulcer may cover most of the gastric wall and still be benign, and a very small crater occasionally is malignant. (2) In a malignant ulcer, the wall about the crater usually has become infiltrated and peristalsis does not pass through this region normally, while in the benign ulcer there is practically no alteration in peristalsis. (3) In malignancies the mucous membrane about the crater is usually destroyed or its arrangement is disturbed. In a benign ulcer the mucous membrane is normal up to the edge of the crater. (4) In malignancy the crater usually extends into a filling defect in the stomach and not beyond the point where the normal stomach wall should be. In benign ulcers the crater extends through a portion or all of the wall in its normal position. (5) The location of the crater may be helpful in a differential diagnosis since most ulcers along the greater curvature side of the stomach are malignant, especially as one approaches the

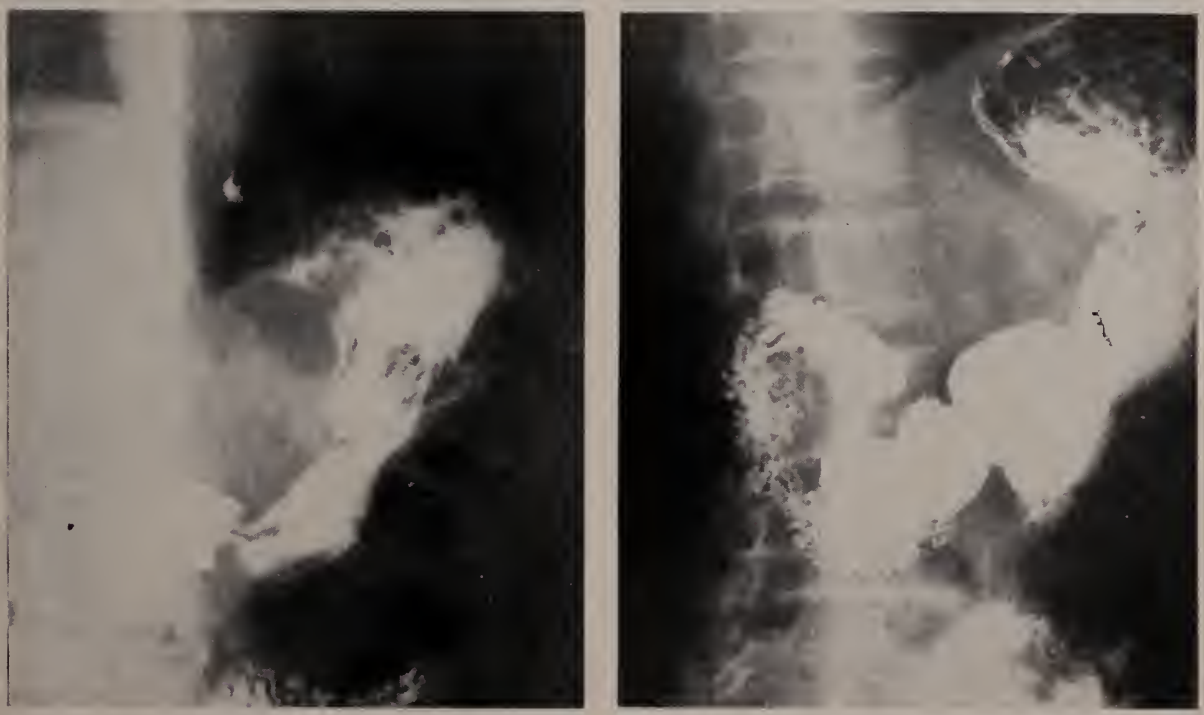


Fig. 5 a and b. A diagnosis of carcinoma was made without much reservation. Eight months later the lesion had disappeared.



Fig. 6. An up-right film of the chest showed free gas in the peritoneal space and the diagnosis of perforation of a hollow viscus was suggested. The patient was treated by the Horgan method with immediate and dramatic results. Eight days later the patient was given barium and a duodenal ulcer was proven.

pylorus. Ulcers of the lesser curvature side of the stomach are more apt to be benign, but either type can occur at any location in the stomach. (6) Where there is a gastric and a duodenal ulcer, the gastric ulcer is very likely to be benign, but there have been cases of carcinoma of the stomach in conjunction with a benign duodenal ulcer. (7) If the ulcer is in the duodenum, one can be practically sure that it is benign, and, so far as I know, no benign ulcer of the duodenum has ever become malignant. A small percentage of benign gastric ulcers are believed to become malignant, but there is doubt in some very capable minds about this ever occurring.

All gastric ulcers should be carefully followed roentgenographically and if the crater disappears within a relatively short time, from two to six weeks, the chances are that the lesion is a benign one. However, there have been cases where the crater disappeared entirely in a very short time, and later proved to be malignant. This can occur when the ulcer crater becomes filled with tumor cells or blood, or when so much edema develops about the ulcer that the opening from the lumen of the stomach or intestine becomes closed and no barium can be seen to enter the crater. In almost all malignant ulcers the appearance is very apt to improve somewhat on a strict



Fig. 7. Diverticulum of the stomach, not proven but having a typical appearance of diverticulum and no symptoms suggestive of gastric ulcer.



Fig. 8. Patient sent for gastro-intestinal examination and far-advanced bilateral pulmonary tuberculosis was found with no evidence of peptic ulcer.

ulcer regime, but it is unusual for the crater to disappear entirely. On the other hand, there are some benign ulcer craters that change very little or become larger even when a very strict regime is followed.

As you can see from the above statements, it is never possible roentgenologically to rule out absolutely the possibility of a malignancy in any ulcer.

Since one of the gentlemen to follow me in this discussion is a surgeon, and anticipating that the roentgenological examination of the gastro-intestinal tract may be pushed around a bit, I cannot refrain from making the following statement. I have seen surgeons hold the stomach in their hands and look directly upon an ulcer crater and be unable to tell whether or not the ulcer was benign or malignant. Therefore, I make no apologies for the roentgenological examination of the gastro-intestinal tract.

The films illustrate some of the points about which we have been talking.

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PR Institute Set for September.

Outstanding postgraduate courses in medical public relations will be offered at the AMA's second Public Relations Institute for all state and county PR personnel. "Classes" will convene September 2 and 3 at Chicago's Drake Hotel.

Topics such as medical forums presented by medical societies in cooperation with local newspapers and tips on how to conduct successful public relations programs on limited budgets will be discussed by authorities in the field. In addition, emphasis will be placed on the use of television as a PR medium. Specially-filmed shows available for use by local medical societies will be given a preview at the Institute.

Designed primarily for lay public relations employees of state and county medical societies, the program will include both talks by PR experts and bull-sessions to give each registrant a chance to solve his special local problems.

AMA Transcriptions Feature Healthy Summer Fun.

Everyday health problems facing the average American family during the summer months form the basis of a new series of radio transcriptions to be released in July by the Bureau of Health Education. The 13-program series, "June, July and August," dramatizes the adventures of the typical Holloway family and their friends . . . on the farm, in the woods, at the beach. With Ralph Camargo as host, the dramatic presentations are followed by discussions of summer health problems by W. W. Bauer, M.D., Bureau director. Subjects include: Poison Oak and Ivy; Water Safety; Highway Safety; Sun and Sorrow; Hay Fever; Summer Insects; High Powered Vacation; Baby Health; Summer Eating; Keep Cool; Farm Hazards; Air Conditioning, and Summer Clothing. The series is available on loan to local medical societies through the Bureau.

ETIOLOGY AND TREATMENT OF PEPTIC ULCER: A REVIEW*

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Medically as contrasted to surgically, a review of this subject entails consideration of etiologic and therapeutic factors, and these two main divisions of the subject shall be reviewed here.

Chronic and recurrent dyspeptic symptoms are common. The most frequent organic cause of such symptoms is peptic ulcer. Statistically 10% of all adult males have an ulcer at some time in their lives.

An ulcer appears because there is devitalization of a small circumscribed area of the gastric or duodenal wall which, coupled with the presence of acid and pepsin, sometimes produces ulcer. It is known also that devitalization may occur without chronic ulcer formation and acid and pepsin may be present and no ulcer formed.[1]

Interdependence of a host of factors in the pathogenesis of chronic ulcer is so great and the factors so difficult to analyze that various classifications of ulcer on bases such as neurogenic, chemical, infectious, nutritional and traumatic, is not believed justified. It seems best to isolate the factors and consider individually what is known about each without attempting a clearcut, rigid hypothesis that inevitably results in peptic ulceration.

Intragastric Factors: A great deal of work has been done on the acid and pepsin producing power of the stomach in relation to formation of a peptic ulcer. With few exceptions the dictum applies "no acid—no ulcer". Areas of intestine not in contact with acid-pepsin do not develop ulcer, and pernicious anemia patients do not have ulcer.

It is established that peptic ulcer patients are hypersecretors. Gastric ulcer is not so much implicated here as is duodenal and there has been some consideration given to their being of different origin.[3] the average normal nocturnal gastric secretion is 650 cc. The average in duodenal ulcer is 2,250 cc.[6] This gastric juice both in normal and ulcer patients is of constant acidity so far as secreted concentration is concerned and the fault lies in total secretory volume rather than in higher concentrations of acid.[2] The relative proportions of gastric juice and such neutralizing substances as saliva, food, mucus or alkaline duodenal juice governs effective acidity and the proportion of gastric juice in ulcer patients is high. These facts have a great bearing on present concepts of ulcer therapy, particularly surgical.

It should also be brought out here that stomal ulcers occur almost exclusively in hypersecretors. Normal secretors do not develop ulcers at site of gastrointestinal anastomoses. Because hypersecretion is frequently present without ulcer no one can accept hypersecretion as the sole cause of peptic ulcer.

Among the earliest theories of etiology of peptic ulcer vascular thromboses figured prominently. Now certainly little credence can be given to this fault in the bulk of ulcer patients. Vascular disease may play some part in the older age group as a cause of ulcer. Peptic ulcer is not associated with known vascular disease entities in higher incidence.

Gastroscopic studies have failed to confirm the theory that hypertrophic gastritis precedes chronic peptic ulceration eliminating the inflammatory factor as definite pre-ulcer lesion.

The presence of an antipeptic mechanism, protecting the mucosa from autolysis during life is pretty well accepted but its nature and source are unknown. It is also felt that the power of this antipeptic factor diminishes down the intestinal tract.

Mucin is secreted throughout the intestinal tract and is probably concerned to some extent with ulcer prevention. There is no proof that it is decreased in amount in hypersecretors.

The factors in etiology mentioned so far are concerned with decreased local tissue resistance in gastric and duodenal mucosa. Trauma internally, thermal or mechanical, holds a shaky place in the group also. No one believes that any one of these factors when present in an individual consistently produces ulcer.

Hypermotility has been studied and theories advanced indicating it is a highly important factor in ulcer etiology. Workers have found that an ulcer would not develop in the duodenum from which muscle had been removed.[1] Ulcer pain has been shown to occur in the hyperirritable duodenum without demonstrable ulcer. Majority opinion, however, regards hypermotility as contributing to pain but of minor importance as a cause of ulcer or in determining chronicity.[2]

*From the Department of Internal Medicine, and presented at a Staff Conference of the Winchester Memorial Hospital, Winchester, Va., February 20, 1952.

Heredity and Constitution: Peptic ulcer is a disease of civilization. Studies done in races not exposed to the stress and strain of civilization indicate absence of the disease despite the absence of striking comparative difference in gastric physiology. Aside from psychogenic inferences concerning ulcer etiology, the concept of ulcer predisposition on the basis of inborn structural autonomic nervous system disturbances must be considered. There is evidence of a tendency for ulcer to occur in families and these families secrete appetite juices excessively.[1] Along these lines it has been shown that operative and traumatic procedures involving certain areas of the brain will cause acute mucosal erosions in the esophagus, stomach and duodenum. Parasympathetic mediation is thought probable.[1]

Vagal stimulation, of course, produces hypersecretion and hypermotility. Sympathetic stimulation produces the reverse and even increases secretion of mucin. Removal of sympathetic inhibition is associated with hypersecretion. The old question of nicotine as a factor in ulcer may be mentioned here in that nicotine-sensitive persons sustain a retardation of sympathetic activity and increased gastric secretion.

Vagotonia is considered important as part of the symptom complex in ulcer causation and some of the signs are usually apparent in ulcer patients (low blood pressure, slow pulse, contracted pupils, increased lacrimation, hypersalivation, gastric hypersecretion, hyperperistalsis, hypertonicity, spastic colon, dermographism, and decreased atropine sensitivity).

In recent years a great deal of attention has been given to the influence of psyche over soma and no organic entity has received more consideration along this line than has peptic ulcer. Undoubtedly autonomic centers in the diencephalon play a part in affective behavior. Impulses originating from emotional influences are sent to somatic muscle, viscera and the cerbral cortex. Cortical impulses also activate autonomic centers and with such an interplay the probability is that a direct relationship exists between cerebral function and gastric activity.

Wolf, with his fistulous subject, demonstrated the effect of emotions on secretions, muscle tone and vascularity in the stomach.[3]

Summarization of his findings obtained by direct examination of gastric mucosa indicates that gastric hyperfunction can be induced by situations engendering anxiety and associated with hostility and resentment. On maintaining the gastric mucosa in this hyperemic, turgid state the pain threshold was reduced. Gastric contractions causing no discomfort when the mucosa was in resting state caused characteristic ulcer symptoms when in the hypersecretory state. It was also shown that intact vagi were essential for causing the hypersecretory response.

Again, however, no single etiologic pattern for peptic ulcer can be implied. Ulcer patients do react to stressful situations by gastric hypersecretions but why is not known. It is contradictory that an individual would elect a pattern of reaction to stress which in itself is destructive. Reasons for such a course of action can only be answered by an analogy that bears repeating, involving the challenged man who can select a weapon and fight, run away, collapse, or make a joke of the issue. His choice depends not on a single instinct but on the complexity of inherited tendencies, experience, cultural background, habits, skills, *et cetera.*

Endocrine influences in peptic ulcer deserve brief mention. Posterior pituitary extract in sufficient amounts will cause a decrease in gastric secretory function. Sex hormones are felt of some importance because the evidence of ulcer in pregnancy is nil and the incidence before puberty is equal in both sexes.

Urogastrone has been isolated from urine and has been shown experimentally to inhibit ulcer formation. Some workers have found it low in ulcer patients.[1]

Enterogastrone from intestinal mucosa reduces gastric secretion and inhibits ulcer experimentally.[1]

Insulin is known to stimulate the flow of gastric juice and ulcer is common is hypoglycemic patients.

The influence of other factors, of infectious foci, allergy, and nutrition, bear no comment in detail.

Medical Therapy in Peptic Ulcer

The review to follow of current thought on therapy will be confined to antacid and antisecretory measures about which enough investigation has been done to come to at least partial conclusions.

Dr. Sippy's innovation in 1915 embraced the idea of maintaining the gastric contents "neutral," which we know now to mean at a pH certainly above 3 and preferably between 4 and 5. His plan involved three to four weeks of bed rest, hourly feedings, 7 A. M. to 7 P.M., powder alkalies, 7 P.M. until 10 P.M. and then, if nocturnal acidity was found high, the stomach was drained.[8] For the most part the hours

between bedtime and morning were not attended by specific antacid therapy.

The neutralization obtained was only relative by this method. Aims of antacid therapy now are, or should be, toward absolute neutralization of free acid. Of the methods used currently or in the recent past, the following paragraph will deal.

Kirsner, Palmer and others have recently reviewed the subject of antacids[7] and many of their conclusions will be mentioned.

The ideal antacid should be:

1. Palatable
2. Free of untoward reactions—
   a—Acid base equilibrium
   b—Not constipating
3. Capable of prolonged neutralizing effect when given in small quantities
4. Devoid of ability to produce secondary secretory rise
5. Low cost.

Calcium carbonate in hourly doses of 2-4 grams usually maintains pH at 4.0 and, if given with atropine, improves the antacid effect, due to decreased motility and gastric emptying. No alkalosis occurs with calcium carbonate and its constipating effect can be overcome by concomitant administration of magnesium oxide.

Aluminum hydroxide has a neutralizing power that theoretically equals that of calcium carbonate but actually is felt not quite as good because in the stomach aluminum chloride is formed. With hourly doses of 30 cc. the pH in ulcer patients can be kept around 4. There is considerable constipation tendency. There is variance in neutralizing power in various commercial preparations.

It should be mentioned here that tablet forms of antacid are in general less effective than powders or liquid, because in tablet form smaller amounts enter into reaction with hydrochloric acid before being emptied into the intestine.

Of the many magnesium compounds none seems held in high esteem due either to relatively poor acid absorptive power or cathartic side effect. Their chief use is in combinations (liquid or powder).

Other antacids, as sodium carboxymethyl cellulose, mucin prepared from hog stomach, protein hydrolysates, anion exchange resins, and detergents have enjoyed some favorable publicity, but, in the last analysis, have proved less valuable than calcium carbonate or aluminum hydroxide gel because of poor absorptive and neutralizing power, dosage requirements, or cost.

Rossett and Flexner in 1944 published an interesting study on pH response to various antacids by using a continuous pH recorder in the stomach. They found that calcium carbonate or several of magnesium compounds (particular emphasis on milk of magnesia) when mixed with an amphoteric substance such as milk or aluminum hydroxide gel, were buffered in the alkaline range, preventing secretory rebound and producing long acting antacid effect. In *in vitro* experiments one gram of calcium carbonate alone could be depended upon to maintain pH at about 3 for about 1½ hours, 1 gram of $CaCO_3$ in 200 cc. milk would maintain free hydrochloric acid neutralization for 2½ hours or more, and 45 cc. of a mixture of aluminum hydroxide and milk of magnesia in the ratio of 4 parts to 1 part would give the same effect for 5½ hours. *In vivo* these times were reduced proportionately but the fundamental principle applied and a much longer-acting antacid produced.

Rossett has more recently published a follow-up, using the principles brought out above.[8] In the treatment of 1,288 cases of peptic ulcer the method used did not fail once to stop ulcer pain and produce healing. There has been no instance of hemorrhage, obstruction or perforation while under treatment. There were two deaths from massive bleeding in whom the treatment was never started. His patient group included uncomplicated peptic ulcer, bleeding peptic ucer and peptic ulcer with obstruction. All patients were hospitalized.

In the uncomplicated ulcer patient the dietary principles were broader than those in general acceptance. The patient was started immediately on the diet he would retain. Antacid was supplied throughout the 24 hours when stomach would have been empty and aluminum hydroxide—milk of magnesia mixture, 4 parts to 1 part, was commonly used. Tincture of belladonna was the antisecretory measure. Bed rest until five days after disappearance of pain was enforced. 8 A.M. stomach emptying was an innovation and stomach contents were tested for neutralization.

Changes were made for bleeding ulcer. Aluminum hydroxide was not used during bleeding (caution given against its use when protein of any type was in the stomach) because a coagulum was found to form that was very constipating and potentially ob-

structing. Here 0.9 grams calcium carbonate and 0.1 gram magnesium oxide were added to milk and partial neutralization begun. A modified Meulengracht diet was started immediately and patient gradually worked into the uncomplicated ulcer regimen.

Obstructive ulcer was treated by drainage, feedings of boiled skimmed milk in amounts equal to amount passing through the stomach per day. Tincture of belladonna, nocturnal neutralization with aluminum hydroxide-milk of magnesia and parenteral fluids. Uncomplicated ulcer regimen was begun when 3,000 cc. of liquid diet passed through per day.

All demonstrable ulcer craters healed within 6 weeks with an average time of 15 days for 506 duodenal craters and 17 days for 36 gastric craters.

This series is remarkable. Most of the conditions of therapy are readily reduplicable. It makes the problem of intractable ulcer seem very small.

The last of the measures to be considered in ulcer therapy involves the use of anti-secretory drugs. There is, of course, nothing new about the principle, but in the past two years some advances have been made creating considerable investigative work.

There are a surprisingly large number of substances producing depression of gastric secretion. All of the following have some propensity in that direction:

Antihistamines	Dibutoline
Enterogastrone	Prantal (organic compound under investigation)
Urogastrone	
Sex hormones	Barbiturates
Atropine	Posterior pituitary extract
Atropine analogues (Trasentin, Pavatrine)	Urea
Tetraethyl ammonium chloride and bromide	Quinine
Methantheline (Banthine)	Atabrine
Hexamethonium Iodide	Paludrine

Of this list, only a few bear discussion at this time. Enterogastrone is a hormone elaborated by the mucosa of the upper small intestine and is responsible physiologically for the secretory and motility depression occurring when adequate concentration of fat or sugar are in the lumen of the upper intestine. Large amounts of the extract given intramuscularly cause decrease in secretion in ulcer patients but the effect is transient and variable. The substance is not useful practically. It has no effect when given orally.[7,11]

Urogastrone is an extract from male and non-pregnant female urine which, when given parenterally, is apparently capable of depressing gastric secretion. Practical therapeutic results have been inconsistent.[7]

Uroenterone is an extract of pregnant mare's urine. It was suggested as a therapeutic agent because of the absence of peptic ulcer in pregnancy. Work has been done on patients with "intractable" peptic ulcer and reports of effectiveness are good in the one article published.[9] It is effective orally, but expensive.

The sex hormones have been investigated because of preponderance of ulcer in males and absence of ulcer in pregnancy. Of the many studies mentioned in review,[7] little practical application seems forthcoming. It is well to mention that ACTH therapy in ulcer patients has been associated with hemorrhage and perforation and the use of ACTH is probably contraindicated in these patients.

Atropine exerts its effect peripherally by preventing response of the vagal neurocellular junction to acetyl choline. This effect is less pronounced in ulcer patients than in normal. Its effectiveness is limited by the side reaction. The synthetic atropine-like compounds are less effective than atropine.[7] A group of drugs known as quaternary ammonium compounds and including tetraethyl ammonium chloride and bromide, and hexamethonium iodide have in recent years been found to block the sympathetic and parasympathetic impulses at the autonomic synapse (in ganglia). They are thereby capable of reducing gastric secretion markedly. The side effects, particularly the tendency to produce hypotension, and the transientness of action make them of small value in the treatment of ulcer. Tetraethyl ammonium chloride has been found useful in relieving pain of ulcer when pain has been difficult to manage by usual methods.[10] However, the work on the quarternary amines leads to the discovery of methantheline (Banthine) which has produced a great deal of investigation. Banthine was found to have a selective affinity for the parasympathetic synapse, although partial blockage of the sympathetic flow also occurs. It also has the atropine effect at the vagus nerve ending peripherally.[12]

The original reports on marked secretory depression[12,14,13,15] have become modified. Significant decrease in gastric secretion is, however, generally acknowledged.[7,16] Several reports indicate poor ob-

jective response so far as healing is concerned in gastric ulcer.[17,15]

Gastric motility is definitely decreased and emptying time retarded on Banthine.[16,12] The prompt relief of pain[8,13,17] is probably closely related to this effect.

Banthine probably influences the rapidity of healing insignificantly[16] despite earlier claims. Its side effects are those of atropine and probably more intense.

Contraindications to the use of Banthine are prostatism, heart disease, chiefly myocardial, adynamic ileus and incipient glaucoma. It is also possible that in obstructive duodenal ulcer the delay in emptying may be enhanced by Banthine, and atropine or belladonna may be preferable.[8]

In summary, it appears that Banthine is of value and, because its secretory inhibitory effect is relative, should be used in conjunction with established ulcer regimen. It is stressed that tolerance to Banthine does develop with gradual diminution of response.[16]

CONCLUSIONS

The conclusion permitted is that there is no single cause for peptic ulcer. Rather one must think of an etiologic complex conditioned by central and autonomic nervous system influences, constitutional diathesis, psychogenic factors, and variables in gastric physiology. Acid and pepsin are essential to the presence of ulcer. The reason for circumscription is unknown.

In treatment, emphasis deserves to be placed on the inadequacy of occasional antacid administration as therapy in ulcer. The aim must be sustained gastric-content neutralization. This may be accomplished by the proper use of food, antacids and antisecretory drugs. It is unnecessary to use a graduated series of diets for the uncomplicated ulcer, or to subject him to a slim selection of foods.

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A RÉSUMÉ OF THE SURGICAL TREATMENT OF PEPTIC ULCER*

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The term "peptic ulcer" has been so thoughtlessly used that it has all but lost its meaning. It is used to include ulcer of the stomach and duodenum, ulcer of the margin of a surgically produced stoma, ulcer of heterotopic gastric or duodenal mucosa; and, unfortunately, it has become a popular stereotype used for many vague forms of functional dyspepsias. It is used too often without sufficient clinical and x-ray studies having been made to support the diagnosis. The term should never be used unless clinical and laboratory studies can corroborate it. Its usage evokes anxiety in a neurotic individual without ulcer; fear and worry in an individual with an ulcer, unless it is most prudently employed. Here the term will be used only in the discussion of ulcer of the stomach, duodenum and the margin of a stoma following gastroenterostomy or resection.

Etiology and Location of Peptic Ulcer. Many etiologic factors, undoubtedly, exist for the formation of peptic ulcer and it is reasonable to assume that the principal factor for the causation of gastric and duodenal ulcer are separate and distinct. However, no factor of consequence has been proven for either.

A large resection of the stomach and duodenum will remove the antral factor which has been shown by Dragstedt and his associates to reduce the amount of gastric secretion produced by the remaining portion of the stomach and to reduce the values of combined and free acids. From their experimental work in dogs they hold the view that a hormonal secretion in the antrum plays a part in the causation and activation of peptic ulcer. They have demonstrated that a Pavlov pouch plus transection of the vagus, a Heidenhain denervated pouch, or an isolated stomach by-passed by an esophago-duodenal anastomosis will almost abolish gastric secretion. With the vagus nerves cut and the antrum of the stomach transplanted into the duodenum, jejunum, or colon so that it can be stimulated by food, the gastric secretion in the pouch will be increased. Therefore, it might be concluded that the activating mechanism might be vagus stimulation plus antrum hormone. This experimental surgery may have shown the reason for the good results which have followed resection of the stomach in peptic ulcer.

Disregarding the causation of chronic indurated ulcer of the stomach and duodenum, there has never been an explanation as to their location; the chronic indurated ulcer of the stomach generally occurs on the lesser curvature between the incisura angularis and the pylorus and its ulcerated base is the gastrohepatic omentum with a tendency for the ulcer to be on and progress along the posterior wall; the chronic indurated ulcer of the duodenum generally occurs on the posterior wall and its ulcerated base is the head of the pancreas.

Pathology and Physiopathology

Acute Peptic Ulcer. An ulcer of the stomach or duodenum may be acute. It may be superficial, especially in the stomach, or the necrosis may be so great that all of the layers of the wall are involved and perforation will occur. The mechanism of acute perforation may be a sequence of pathologic changes produced by vascular spasm, thrombosis and necrosis. Upon the size of the area of necrosis depends the size of the perforation. Small perforations will sometimes only permit of small leakage into the peritoneum; large perforations will permit of greater leakage. The amount of gastric tension at the time of perforation will also be a determining influence upon the amount of gas and chyme that escapes into the peritoneum. The acute ulcer that perforates is generally on the anterior wall.

Chronic Indurated Peptic Ulcer. An ulcer of the stomach or duodenum may be chronic. It may be penetrating or perforating in character, but seldom perforates. It may heal spontaneously. It may recur. It has a tendency to bleed and the bleeding has a tendency to recur. The amount of hemorrhage will depend upon the size of the artery that has become necrosed. Indeed, the loss of blood may be so massive that death will occur before replacement can be made.

Surgery

Indications for Surgery. The treatment of ulcer of the stomach and duodenum is primarily medical and dietary management. The indications for surgery in ulcer of the stomach and duodenum are quite generally

*From the Department of Surgery, and presented at a Staff Conference of the Winchester Memorial Hospital, Winchester, Va., February 20, 1952.

recognized today by all. If a patient is referred for a surgical procedure, the medical and dietary treatment should be carried out by the physician during the preparation for surgery, the convalescence, and the period of adjustment that is necessary after surgery if the best results are to be obtained.

Chronic Indurated Gastric Ulcer. Because carcinoma is so commonly found in chronic indurated ulcer of the stomach, and because there are so few with carcinoma of the stomach who are saved, the importance of surgery should be stressed in cases of chronic indurated ulcer of the stomach. We do not defer advising the patient with chronic indurated ulcer of the stomach to have a surgical operation. We do not place too much dependence upon an x-ray study that an ulcer of the stomach has healed. We do not evaluate the size of an ulcer of the stomach by x-ray shadows. We do not entertain the view that a small ulcer of the stomach is not malignant. We do not accept the teaching that ulcer of the stomach in certain locations is not malignant. Chronic indurated ulcer of the stomach should always be looked upon as being a dangerous site for carcinoma and should be treated surgically by resection.

Chronic Indurated Duodenal Ulcer. Because some cases of ulcer of the duodenum are unmanageable on a medical and dietary regimen surgical treatment becomes necessary.

Progressive Ulcer Symptoms. Uncontrolled symptoms, including pain, in a patient who has been on a strict medical and dietary regimen is an indication for surgery. The severity of pain is difficult to evaluate and should not be the determining factor. The entire clinical picture must be considered. Uncontrolled symptoms and bleeding indicate the ulcer is progessively getting worse.

Bleeding from an Ulcer. Hemorrhage may manifest itself by causing weakness which is accompanied by tarry stools, an anemia which does not respond to treatment because of almost constant oozing of blood, or a sudden severe loss of blood producing vomiting of blood, tarry stools, collapse, and shock. When hemorrhage occurs and is managed by replacement and supportive therapy the indication for surgery still exists as recurrence of hemorrhage is a common observation. Massive hemorrhage from an ulcer that continues when large volumns of blood are replaced must be looked upon as a surgical emergency.

Acute Perforation. Until quite recently an acute perforation of an ulcer had been looked upon by everyone as a complication requiring immediate operation for its closure. The tragic thing about this treatment is that it carried a hospital mortality of 22.8 per cent in 16,843 cases in the reported series in the surgical literature from 1930 to 1948. Antibiotic and bacteriostatic substances have not reduced the mortality greatly as the deaths are not due to infection. Most of the deaths have been brought about by thrombophlebitis and phlebothrombosis with pulmonary embolism, infection with dehiscence of the wound, intraperitoneal and subphrenic abscess, fistula, and ileus. Then there is an added mortality which has never been determined because of the necessity of secondary operations. The suturing of the perforation has not always been successful and, consequently, there have been many instances of leakage and actual reperforation following suture. Recently non-operative treatment of this acute complication has been employed by some surgeons.

Pyloric Obstruction. Inflammation extending into the pylorus and resulting in secondary stenosis or an actual cicatrix of the duodenum will cause obstruction and must be relieved surgically. Other conditions, such as inability to follow a medical and dietary regimen on account of occupation or economic reasons, might at times be considered as the reason for surgery.

OPERATIVE PROCEDURES

Resection of the Stomach and Duodenum. One who undertakes to treat gastric or duodenal ulcer surgically must have a knowledge of the pathology and physiopathology of these conditions if one attempts to carry out a surgical procedure for the (a) excision of the pathological lesion, (b) the reversal of the physio-pathologic state to a condition nearer normal, and (c) at the same time maintain a good functional apparatus that will be unfavorable for the recurrence of an ulcer. This has best been accomplished by resection of the first portion of the duodenum with a large portion of the stomach. It will remove the pathologic lesion whether it be a gastric or a duodenal ulcer. If it includes all of the lesser curvature, it will remove the area where 95% of all peptic ulcers occur. If approximately three-fourths of the stomach is removed, the volume of gastric secretion will be lessened and the values for combined and free acid will be markedly reduced. If the continuity of the gastrointestinal tract is re-established by a normal continuity of the stomach to the duodenum or by anastomosing the stomach to the jejunum near the ligament of Treitz, through the transverse mesocolon, the normal physiologic state

will be nearly approached because the gastric chyme will be quickly acted upon by the pancreatic secretion and bile.

Morbidity and mortality following surgical resection has been greatly lowered in recent years, as was shown by Glenn and Harrison who reported 100 consecutive resections with the loss of only one patient or a mortality of one per cent.

Gastroenterostomy. Gastroenterostomy still has its place, although it has been greatly maligned. Its usefulness is best illustrated in relief of obstruction in secondary stenosis of the pylorus and cicatricial stenosis of the duodenum. It may also be used in individuals who would be considered poor risks for resection of the duodenum and stomach. When a gastroenterostomy is made, it should be done by anastomosing the jejunum to the posterior wall of the stomach through an opening in the transverse mesocolon by the method of Dr. W. J. Mayo.

Vagotomy. Sectioning of the vagus nerves in the esophagus just at or above the cardia has recently been revised and advocated by Dragstedt and his associates. Dragstedt has been very convincing in his writings and discussions but the procedure has not been widely adopted. Its surgical application has not as yet been established.

Surgeons who employ vagotomy in the surgical treatment of peptic ulcer use it only in case of duodenal ulcer and most of them do a gastroenterostomy at the same time. Some surgeons have been doing vagotomy only in the treatment of marginal ulcer.

Suturing of Perforated Ulcer. Suturing of a perforation of the stomach or duodenum is almost always done as an emergency surgical procedure without preparation of the patient. The hazard of operation is great and the accomplishment of closure of the perforation is doubtful. If the hazard were not great, the morbidity and mortality would be lower; if the closure by suture were simple, there would not be so many and varied methods of doing it. The reason for the many methods is because of the fact of reperforation.

Non-Operative Treatment of Perforated Ulcer. In 1945 it occurred to me that another form of treatment might be more effectual, and, after considerable thought and planning, it was instituted. Chemical inflammation of the peritoneum was known to be always present; bacterial peritonitis was known to follow. Penicillin and sulfadiazine were then available and I reasoned that if the bacterial peritonitis could be prevented the other serious causes of the morbidity and mortality could be avoided. Then, too, I had observed an occasional case that had not been operated upon because the patient was not brought into the hospital at the time of the acute perforation, but was admitted later for the drainage of a localized collection of material in the abdomen. From these patients it was learned that they had gotten along very well after the first few days following the perforation.

When the non-operative treatment was instituted the results in the first few cases were very gratifying. Since then it has been carried out by a number of surgeons and the reports have been generally good. The treatment consists of gastric suction, supportive therapy and antibiotics. The details of the treatment and the results on over 100 cases have been published elsewhere.

It should be pointed out very clearly that all cases of acute perforation of a peptic ulcer should be studied clinically after convalescence. Neither operative surgical closure nor non-operative treatment are definitive. Definitive surgery will be necessary in a large percentage of the cases not only on account of the likelihood of reperforation but on account of progression of the ulcer. But definitive surgery will be easier if the non-operative policy is followed than if it is done after an operation for suturing the perforation.

Marginal Ulcer and Other Ill Effects. A great decision for the surgeon to make is what to do about a marginal ulcer and how to correct other ill effects following gastroenterostomy and resection. Clinicians too often take the stand that nothing should be done but medical and dietary treatment. Most surgeons are of the opinion that if surgical operation were indicated for an original complication of peptic ulcer, it is indicated for a secondary complication following surgery. Therefore, the revision of a gastroenterostomy or the revision of a resection should be done if a marginal ulcer exists or other ill effects have resulted. With improved methods of anesthesia and particularly controlled respirations by the use of the endotracheal tube, replacement of blood loss by transfusion, and supportive therapy for the maintenance of electrolyte balance, these surgical procedures can be carried out as safely as the primary ones.

Summary

From this resumé one would be inclined not to make definite conclusions as there are many aspects to the problem of peptic ulcer which are not solved.

A MICROCOLONY TECHNIQUE FOR THE RAPID DETERMINATION OF BACTERIAL SENSITIVITY TO ANTIBIOTICS

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INTRODUCTION

The established procedures for the determination of bacterial sensitivity to the antibiotics may be placed in two categories: (1) those procedures requiring preliminary isolation with subsequent tests made on the pure culture material, and (2) those procedures whereby the antibiotic material is placed on the primary isolation plates at the time the specimen is cultured. In the first case, although accurate determinations can be made, a period of three days is usually involved before the sensitivity of a particular microorganism is known. In the second case, the sensitivity can be determined in 24 hours but the distribution and prevalence of clinically significant colonies in the vicinity of the test substance may be so erratic as to make determinations difficult.

The following procedure was devised to combine the accuracy of the first category with the speed of the second. It is possible by this method to determine the sensitivity of a pure culture of organisms to the desired antibiotic in 21-to-27 hours after the specimen is received.

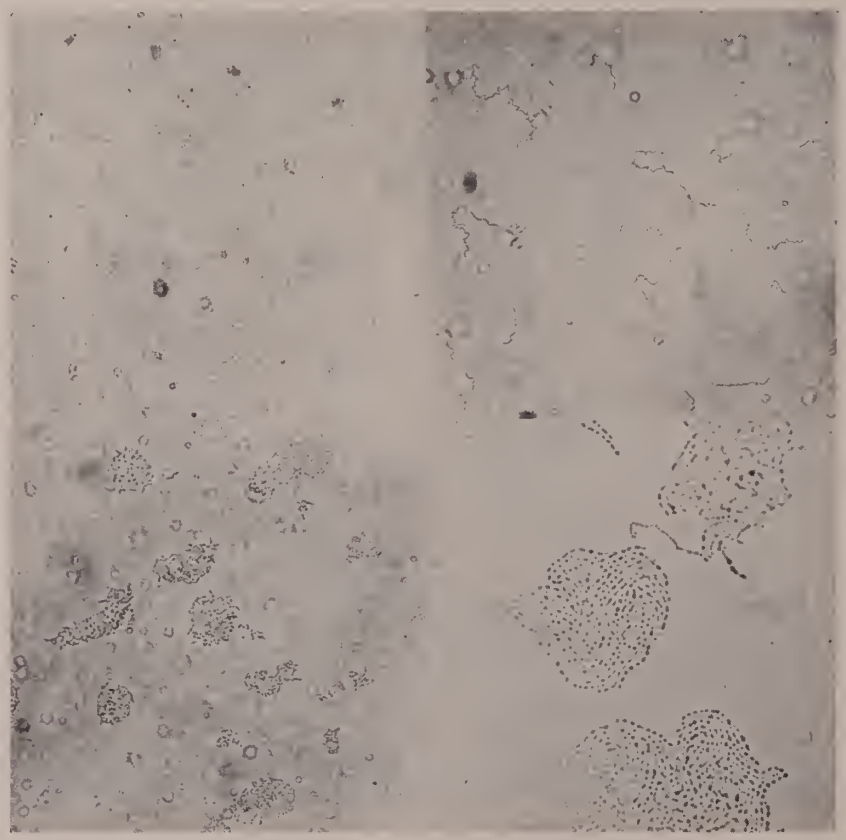


Fig. 1.—Microcolony development of *Streptococcus hemolyticus* after 3 hours' incubation at 37° C. A, Control, no antibiotics present (X 100); B, 0.15 unit/ml. of penicillin (X 200); C, 0.04 unit/ml. of penicillin (X 100); D, 0.04 unit/ml. of penicillin (X 500).

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MATERIALS AND METHODS

The antibiotics are dissolved in distilled water to give the following concentrations: penicillin, 100 units per milliliter; streptomycin, 2,000 micrograms per milliliter; aureomycin, 1,250 micrograms per milliliter; terramycin, 200 micrograms per milliliter;

chloromycetin*, 250 micrograms per milliliter; bacitracin, 600 micrograms per milliliter; polymyxin, 1,000 micrograms per milliliter. Beginning with these concentrations a series of 8 two-fold dilutions are prepared for each antibiotic. One and one-half milliliter of each concentration of antibiotic is then added to individual 20-by-150 mm. tubes containing 13.5 ml. of molten brain veal agar (Difco) held at 50°C. in a water bath. The agar-antibiotic mixtures are poured into sterile petri dishes of standard dimensions and permitted to harden on a level surface. (To ensure an even agar layer and complete utilization of the contents, select petri dishes having flat bottoms). The final concentration of each antibiotic in the brain veal agar is then one-tenth of the amount present in the water dilution.

Squares, one centimeter on a side, are cut from the hardened medium with a flattened thick nichrome wire sterilized by heating to redness in a gas flame. Relatively uniform squares are obtained by placing the petri dish over a card on which centimeter squares are drawn and tracing the outline squares with the cutting instrument.

Large (75-by-38 mm.) microscope slides are sterilized by dipping in ethyl alcohol and igniting and holding in a bunsen flame for about 10 seconds after the alcohol has burned off. The sterilized slides are placed in sterile petri dishes and permited to cool. A double thickness of filter paper or paper towel is cut into circles the size of the inner diameter of the petri dish bottom; this double layer is moistened by dipping in water and then is drained before placing in the bottom of the petri dish beneath the flamed slide. It is not essential that the bottom or edges of the slide remain sterile.

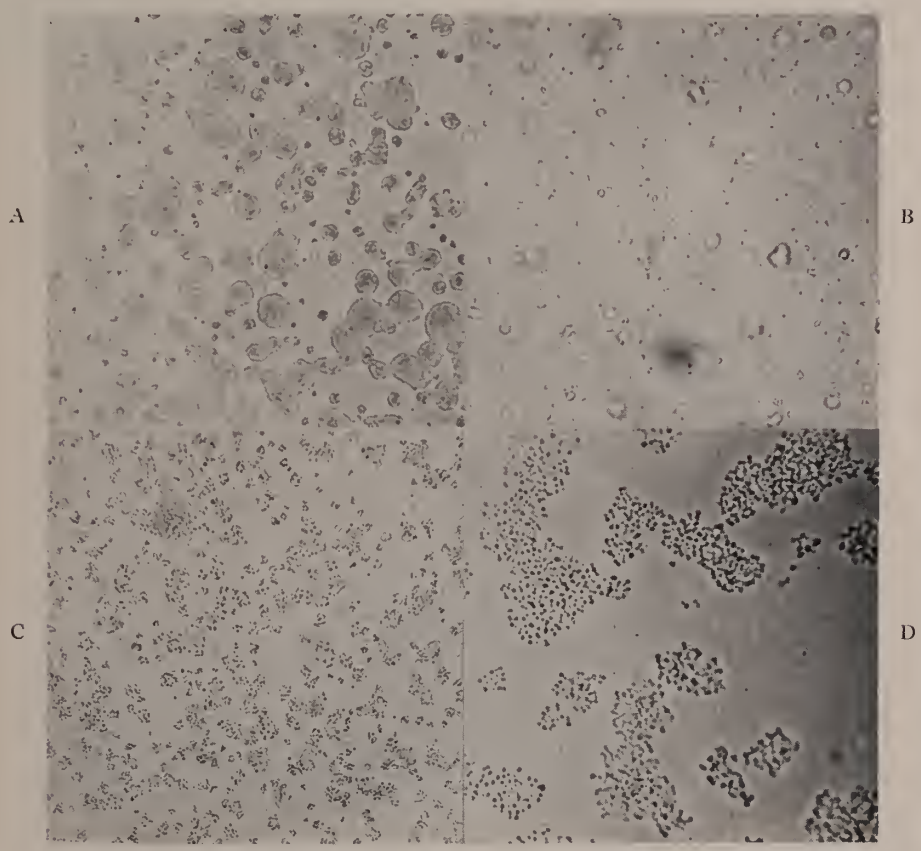


Fig. 2.—Microcolony development of *Staphylococcus aureus* after 3 hours' incubation at 37°C. A, Control, no antibiotic present (X 100); B, 0.04 unit/ml. of penicillin (X 200); C, 0.01 unit/ml. of penicillin (X 100); D, 0.01 unit/ml. of penicillin (X 500).

Squares of brain veal agar lifted (with a sterilized flattened nichrome wire) from each of the eight different dilutions of antibiotics are placed in the order of decreasing concentrations on the sterile surface of the slide. A ninth square which serves as a control is cut from a 15 milliliter brain veal agar plate that has not received any antibiotic.

*Trademark Parke, Davis & Company, Detroit, Michigan.

The organism to be tested may be obtained from the primary isolation plate or from an over-night broth culture of the organism. An inoculum which is faintly turbid is satisfactory. Where broth cultures are employed we have found that a 1:20 saline dilution of over-night broth (Difco, brain heart infusion) is satisfactory. Where the bacteria are obtained from the primary isolation plate, they should be picked from several isolated colonies with a straight inoculating wire and introduced into sterile saline solution. If one wishes to test organisms such as streptococci, which produce small colonies, it may be necessary to pick from 7-to-10 colonies and suspend in as little as 0.1 ml. of sterile saline; however, when large colonies are under observation, fragments from 3 or 4 colonies may be suspended in a volume of 1-to-2 ml. to provide an inoculum of suitable turbidity.

Employing a 2 mm. inoculating loop, a loopful of inoculum is gently placed in the center of each agar square. It is advisable to place the liquid on the square in such a manner that the wire does not make contact with the agar surface. The inoculum is added to the control square first, then to the squares containing the antibiotic in the order of increasing antibiotic concentration. If enough inoculum is available, so that a different tube of inoculum can be used for each antibiotic to be tested, an entire series of squares may be inoculated without flaming the inoculating loop between inoculations; otherwise, it is necessary to flame and cool the loop between each application in order to prevent contamination of the inoculum with several antibiotics with consequent false readings. Since one-tenth of a milliliter of suspension is adequate to inoculate a series of nine squares, there is usually more than sufficient inoculum.

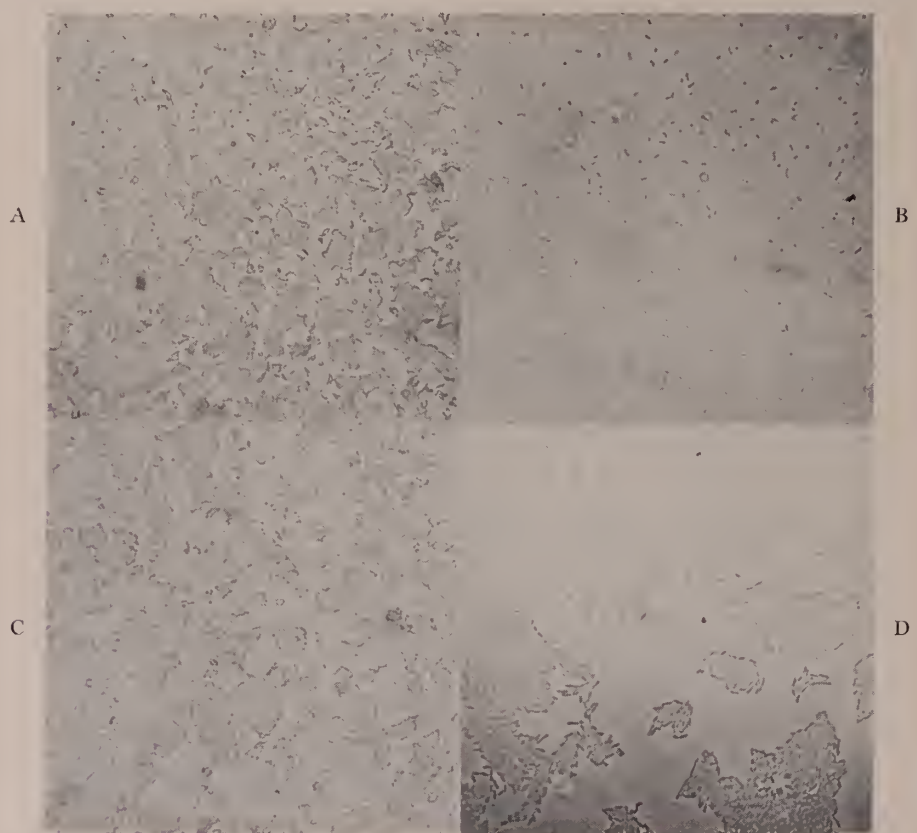


Fig. 3.—Microcolony development of *Aerobacter aerogenes* after 1.5 hours' incubation at 37° C. A, Control, no antibiotic present (X 100); B, 12.5 mcg./ml. of chloromycetin (X 200); C, 6 mcg./ml. of chloromycetin (X 100); D, 6 mcg./ml. of chloromycetin (X 500).

The inoculated slides are incubated at 37°C. in the petri dish containing the moistened paper. After 3-to-4 hours' incubation, the slide is removed from the petri dish and examined under the microscope. At this time a magnification of X 100 will reveal microcolonies present on the control square. Very rapidly growing bacteria such as the intestinal or-

ganisms may produce a confluent growth as the microcolonies coalesce. The sensitivity of the organisms to the antibiotic in the square is related to the ability or inability of the organism to develop microcolonies. The endpoint is the lowest concentration of antibiotic capable of prohibiting the development of microcolonies on the impregnated agar squares.



Fig. 4.—*Staphylococcus aureus* after 24 hours' incubation at 37° C. on brain veal agar squares with varying concentrations of penicillin. Penicillin units per milliliter in the squares reading from bottom, left to right: 0.6, 0.3, 0.15, 0.08, 0.04, 0.02, 0.01, 0.005. Off-center square is control with no antibiotic added.

After examining the squares the slide is returned to the petri dish with the moistened paper and incubated for an additional 18-to-24 hours for confirmation. The squares then are examined macroscopically for bacterial growth.

Results and Discussion

Strains of the bacteria *Aerobacter aerogenes, Pseudomonas aeruginosa, Klebsiella pneumoniae, Staphylococcus aureus, Streptococcus hemolyticus,* and *Streptococcus viridans* were examined with regard to their sensitivity to the following antibiotics: penicillin, polymyxin, chloromycetin, aureomycin, streptomycin, bacitracin, and terramycin.

Presented in Figures 1-to-3 are photomicrographs of three of the above microorganisms depicting their response at two levels of antibiotic concentrations a few hours after inoculation. The appearance of a 24-hour specimen of *Staphylococcus aureus* on eight agar squares with different concentrations of penicillin and a control square with no penicillin is shown in Figure 4.

The sensitivity of the same strain of each of the six different species of bacteria was determined by the test tube dilution method, the disk method, and the microcolony technique. The test tube method used was similar to procedure described by Kolmer *et. al.*[3] with some minor modifications. The disk technique involved the use of commercial disks containing antibiotics and the relative sensitivity of the organism was determined according to the manufacturer's chart. The procedure for the microcolony technique was as described above; however, in some cases the concentration of the antibiotic in the first dilution was less than the concentration suggested above. The inocula used for the microcolony technique consisted of 18-hour cultures of the organisms in brain heart infusion broth diluted 1:20 in sterile saline. The comparison of antibiotic sensitivity as observed by the three methods is summarized in Table I. On the whole, the microcolony technique compares favorably with the tube dilution test and the disk method. In the case of polymyxin we found that our strains of *Aerobacter aerogenes* and *Klebsiella pneumoniae* were considerably less sensitive to the antibiotics by the tube test than by the microcolony test; however, our strain of *Pseudomonas aeruginosa* responded to similar concentrations of polymyxin in both tests. Most of the bacteria tested appeared somewhat less sensitive to terramycin when tested by the tube method than they were when tested by the microcolony technique, although the sensitivity by the latter method was comparable to that noted by the disks.

The 24-hour reading varied from the 3-hour reading by no more than a two-fold dilution except in the case of aureomycin. The inhibiting concentration of this antibiotic increased by a factor of 2-to-30 after 24-hours' incubation. This finding is consistent with the observation of Jackson and Finland[2] and has been attributed to the labile nature of aureomycin. The antibiotic sensitivity of the same strain of bacterium was found to be reproducible upon testing by the microcolony technique at intervals.

In determining the endpoint the magnification of X 100 is specified. This magnification is adequate to observe the microcolonies and also avoids inconsistencies in determining endpoint that may arise when a higher magnification is used. Some bacteria may enlarge or divide once or twice in the presence of threshold concentrations of an antibiotic. When these are observed with a high magnification they may confuse the observer, but when observed with a low magnification they pass unnoticed. We have noted in most instances that such organisms fail to develop in 24 hours beyond the stage observed at 3-to-4 hours; therefore, we feel justified in considering such a preparation as being sensitive to the an-

TABLE

COMPARISON OF THE ANTIBIOTIC SENSITIVITY OF

	Aerobacter aerogenes Sensitivity in units or mcg./ml.					Klebsiella pneumoniae Sensitivity in units or mcg./ml.					Pseudomonas aeruginosa Sensitivity in units or mcg./ml.				
	Tube	Micro-colony 3 hr.	Micro-colony 24 hr.	Disk M.I.C.[1]	Disk Sens.[2]	Tube	Micro-colony 3 hr.	Micro-colony 24 hr.	Disk M.I.C.[1]	Disk Sens.[2]	Tube	Micro-colony 3 hr.	Micro-colony 24 hr.	Disk M.I.C.[1]	Disk Sens.[2]
Penicillin	...	....	....	....	....	...	....	....	....	....	...	....	....	....	....
Polymyxin	50	6	6	....	....	>50	3	6	....	....	6	12	25	....	....
Chloromycetin	8	12.5	12.5	0.6-9.3	S	1.5	1.5	1.5	<0.6	VS	250	>25	>25	>9.3	R
Aureomycin	31	2	62	>4.9	R	8	<1	4	4.9	R	125	62	>125	>4.9	R
Streptomycin	100	25	25	0.8-6.7	S	6	3	3	0.8-6.7	S	100	25	100	0.8-6.7	S
Bacitracin	...	....	....	....	....	...	....	....	....	....	...	....	....	....	....
Terramycin	25	5	5	1-4.1	S	12	1.2	1.2	1-4.1	S	25	10	20	>4.1	R

[1]M.I.C. Minimal inhibitory concentration in units or micrograms per ml. of medium as related to disk reading by manufacturer's chart.

[2]Sensitivity designated as R, resistant; S, sensitive; VS, very sensitive on basis of zone of inhibition measurements according to manufacturer's chart.

Leaders signify that test was not run.

tibiotic concentration of the particular square observed.

The plates containing the various dilutions of antibiotics can be stored at 4°C. for five days without loss of activity with the exception of aureomycin which must be used at once after preparation.

This technique is essentially a modification of the agar-plate dilution method described by Frank *et al.*[1] In addition to its rapidity, the method outlined above has two advantages over the agar-plate dilution method: (1) When it is desired to test the sensitivity of only one or two microorganisms the necessary squares can be removed, thus saving the remainder of the agar for future determinations. (In this connection it should be mentioned that we have experienced no difficulty with contaminants appearing on the partially used plates held for five days in the refrigerator, although squares were removed in the open laboratory with no unusual precautions.) (2) Whereas the presence of a single spreading organism obscures all observations on a given plate in the agar-plate dilution method, this difficulty is avoided by the isolation of the squares on the glass slide.

The titration of the sensitivity of an organism to an absolute endpoint is unnecessary for routine clinical work, in which case we suggest that two concentrations of an antibiotic be tested for screening purposes; one a high concentration, the other a low concentration of the antibiotic within the range of clinically attainable levels. The slide described will hold ten agar squares; Therefore, on one slide a control square and eight squares representing four antibiotics at two levels can be used in testing the relative sensitivity of an organism.

SUMMARY

This paper describes a method for determining the antibiotic sensitivity of microorganisms, which depends upon the inhibition of microcolony development as its endpoint.

The microcolony technique enables one to determine antibiotic sensitivity of many organisms in as few as 3 hours.

This method is economical in labor, requires only standard laboratory equipment, and can be altered to comply wth the specific needs of any clinical laboratory.

ACKNOWLEDGMENT

The authors wish to express their appreciation for suggestions and materials from Dr. W. C. Thomp-

I.

Six Bacteria as Determined by Three Methods

Staphylococcus aureus Sensitivity in units or mcg./ml.					Streptococcus viridans Sensitivity in units or mcg./ml.					Streptococcus hemolyticus Sensitivity in units or mcg./ml.				
Tube	Micro-colony		Disk		Tube	Micro-colony		Disk		Tube	Micro-colony		Disk	
	3 hr.	24 hr.	M.I.C.[1]	Sens.[2]		3 hr.	24 hr.	M.I.C.[1]	Sens.[2]		3 hr.	24 hr.	M.I.C.[1]	Sens.[2]
0.04	0.04	0.04	<1.8	VS	0.08	0.08	0.08	<1.8	VS	0.08	0.08	0.08	<1.8	VS
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
12.5	6	3	0.6-9.3	S	6	6	3	6-9.3	S	12.5	6	6	6-9.3	S
1	1	<1	0.6-4.9	S	<1	<1	2	>4.9	R	1	4	4	>4.9	R
12	3	3	0.8-6.7	S	12	12	12	>6.7	R	25	25	12	>6.7	R
2	4	2	0.8-3.1	S	0.1	1	1	>4.1	R	1	0.25	<0.1	>4.1	R
1.5	0.3	0.15	<0.25-2	VS	0.8	0.15	0.15	0.25-2	VS	1.5	1.2	0.6	1-4.1	S

son, Jr. Also, the authors wish to thank Mr. M. C. Shaffer for making the photomicrographs, and Parke, Davis & Company, of Detroit, Michigan, for supplying the chloromycetin used in this work.

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AMA Publishes Health Insurance Booklet.

The seventh annual revision of the health insurance brochure published by the Council on Medical Service and its Committee on Prepayment Medical and Hospital Service now is available to physicians and allied groups. In this booklet—"Voluntary Prepayment Medical Benefit Plans"—each plan is described by summary of benefits, enrollment at the end of 1952 and other pertinent data. Separate sections list plans by type of sponsorship. Also identified are plans which have been granted the Council's seal of acceptance. One section is devoted to Canadian plans which have been organized or approved by the provincial branches of the Canadian Medical Association. In addition, other types of programs are described to give examples of voluntary methods of insuring some of the costs incident to health care. Single copies are available, without charge, from the Council.

NEONATAL ASPHYXIA DUE TO BILATERAL CHOANAL ATRESIA*

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Congenital atresia of the posterior nasal choanae is being reported with increasing frequency. The atresia may be unilateral or bilateral, complete or incomplete, bony or membranous. This paper deals with the complete bilateral atresia as this is the only one causing neonatal asphyxia.

The first case was reported by Otto[1] in 1829 describing this deformity in a foetus seen at autopsy. By 1948 Wilkerson and Cayce[2] had collected 269 cases to which they added 6 more. With the five additional cases reported by Medovy and Beckman[3] in 1951 and other scattered reports, the total is now at least 283 cases. Pastore and Williams[4] at the Mayo Clinic found 12 cases from 1903-1939. Almost exactly half of the cases reported were bilateral, and at least 46 of these were not discovered until adult life, showing that certainly some survive the newborn period without serious result. No case has been seen at the Medical College of Virginia Hospital since 1932.

About 90% of these obstructions are bony and 10% are membranous. Anatomically the bony obstruction is bounded superiorly by the body of the sphenoid and the vomerine ala, medially by the posterior border of the vomer and the nasal crest of the palatine bone, inferiorly by the hard palate, and laterally by the medial lamina of the pterygoid process.

There are several theories as to the etiology but most authorities agree that the abnormal tissue is a vestige of either the buccenasal or buccopharyngeal membrane.

Symptoms of the bilateral type seem to be consistent with all cases. There are periodic attacks of cyanosis occurring immediately after birth. The cheeks are somewhat sucked in. There is a marked heaving of the chest with substernal retraction and a suffusion of the face. If the lower jaw is depressed the infant will gasp for air and the color improve. On his own he may struggle more and more vigorously to breathe, becoming more suffused in the face and finally, giving up, it cries, which improves the color. As he relaxes the cycle is started all over again.

*Presented to the Richmond Academy of Medicine January 27, 1953, and to the Fetal and Neonatal Mortality Conference, at Richmond, February 11, 1953.

The differential diagnosis must include all cases thought to have atelectasis but do not have enough X-ray changes to warrant the symptoms. Also, any child being treated for an enlarged thymus who is having repeated cyanotic attacks must be considered. After an obstruction of the nose has been found, a nasal polyp must be excluded.

Obviously the treatment for this condition is surgical. The types of operations are many and varied. Almost all the children who have had the operation early have had to have a repeat procedure at a later date. Simply punching through the bony obstruction or biting out pieces with a gouge forceps is not enough since there is a rapid reformation of the septum and the process has to be repeated. A good vision of the operative field should be obtained so that the entire bony plate can be removed as well as a small portion of the nasal septum. Many successful operations have been performed. Reference may be made to a case described by Stoner and Freeman[5] who, after fracturing the inferior turbinates, broke through the bony partition with a gouge, enlarged the opening with a sphenoid punch, and inserted the inner tube of a #2 tracheotomy tube. This was done on both sides and the tubes changed daily. The obturators were removed on the 17th day, and 9 months later the patient still had patent posterior choanal openings.

The following case is reported mainly to bring to mind this condition, and thereby save the lives of those newborns who are unable to make the adjustment from nasal to mouth breathing by themselves.

CASE REPORT

E.J.P., a 7 pound white female, was born 7/28/52 following a normal prenatal course with no accidents or illnesses, and with no history of any familial disease. She was a well developed infant appearing normal and with no deformities seen. However, due to cyanosis immediately following birth, the infant was given oxygen in a heated crib. Her color remained ashen or cyanotic in spite of this and seemed to be cyclic in nature. Considerable bloody mucus was aspirated from the throat during the first 12 hours. The child appeared to be in shock for which parenteral fluids and coramine were

given. I was called into consultation and first saw the child 20 hours after birth. At that time she was in a moribund condition and was receiving resuscitation by Dr. Mack without which she most certainly would have died. Previous to this resuscitation she had been making marked efforts to breathe by strong elevation of the chest and substernal retraction. Following this effort she became limp and pallid. I then noticed that if the lower jaw was depressed and the tongue pulled forward, the child gasped, started to cry, and the color improved. As soon as the lower jaw was allowed to close, the symptoms returned. Therefore, a metal airway was inserted temporarily, and this allowed good color to be maintained.

With the probable diagnosis of choanal atresia in mind, a #8 catheter was passed into the nose and encountered an obstruction about five cm. back on each side. With a metal probe this felt like bone There was a great quantity of clear gelatinous mucus in each side of the nose through which no air passed.

Dr. Montague was called as to the advisability of a tracheotomy or any other surgical procedure to provide temporary relief. He performed a tracheotomy, and from that moment on the child progressed nicely. 300,000 units of Crysticillin were given daily for four days. She regained her birth weight by the tenth day, and continued to gain, weighing 9 lb., 4 oz. at seven weeks of age. The X-ray of her chest was normal at birth and before discharge from the hospital. The blood count was 4,850,000 R.B.C. with 92% Hgb.

Discussion

Congenital occlusion of the nasal choanae must be considered as a very definite cause of neonatal asphyxia. It is much more serious in the first two weeks of life because of the dependence of the newborn on nasal breathing. This child most certainly would have died if immediate steps had not been taken to give it an airway. The tracheotomy allowed this child to make a normal newborn gain without the usual malnutrition developing or having a marked feeding problem for the nursing staff in the hospital or the mother at home. An operation may be done in the future on a child in a good nutritional state, and because of the tracheotomy an easy anesthetic will be possible.

Ronaldson[6] stated in 1889 that following a series of autopsies on infants who died of asphyxia neonatorum, congenital occlusion of the nasal choanae was a frequent cause of death. No details are given. I have witnessed many newborn autopsies and as yet have to see one in which there has been an attempt to demonstrate patency of the nares. I am sure that if this is made a routine part of the autopsy there will be a marked increase in the number of cases reported.

This condition should be considered in any child in the newborn period that is having periodic attacks of cyanosis, or one in which the diagnosis of atelectasis or enlarged thymus has been made but can not be proven by X-ray. Upon closer examination it is noticed that with these cyanotic attacks the infant's cheeks may be sucked in, there is a heaving of the chest, and a marked suffusion of the face. As the child begins to cry the respiration is gasping until enough oxygenation has taken place to make it more comfortable. Color improves with crying rather than getting worse as it might do in a case of atelectasis. When he begins to drop off to sleep and the mouth is closed, the whole cycle is repeated. This may be prevented by doing a tracheotomy, which, incidentally allows the child to eat readily from the bottle. The other more tedious method is to keep someone in constant attendance throughout the first two weeks to see that the lower jaw is depressed. Some men may feel that it might be good judgment to do a poor initial job with a gouge, with the full expectation of doing a plastic later.

The clear viscous secretion in each anterior nares seems to be a constant finding in these cases. Any attempt, of course, to pass a blount probe or catheter meets with failure, the obstruction being met about 5 cm. back. If the obstruction feels membranous rather than bony, the gouge method would, of course, be the temporary choice.

The patient undiagnosed until later in life will complain of the absence of smell, poor taste, and the constant thick mucus from the nose mixed with all of the tears draining anteriorly.

Summary

A case of neonatal asphyxia due to bilateral congenital choanal atresia has been presented. The incidence of death from this cause may be drastically reduced by simple early diagnosis. A tracheotomy is the initial surgical procedure of choice for the relief of symptoms, and to simplify newwborn care.

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Causes of Children's Headaches Legion.

Headaches in children are as varied and as widely dissimilar as they are in grownups. They may be caused by eyestrain, illness or excitement, or may be a simple excuse to escape from an unpleasant task, according to Dr. Noah D. Fabricant, Chicago.

Whatever their cause and whether they are simple or complex, children's headaches are fairly obvious and yield handsome response to medical care, Dr. Fabricant wrote in the current Today's Health magazine, published by the American Medical Association.

Eyestrain is one of the better known causes of headaches in children, he stated, adding:

"Temporary blurring of vision is experienced, and the eyes feel tired, hot and gritty—a feeling that may eventually give place to a dull ache. They tend to become reddened and watery, and chronic irritability leads to constant rubbing of the eyes. Headache may occur in every possible nook and corner of the head, from the top of the skull to the nape of the neck. It can show up as a dull, persistent pain in the forehead, the back of the eyes or the region of the temples."

Another cause of children's headaches is anemia, Dr. Fabricant said. A simple blood examination will confirm this, and relief can be obtained quickly by adequate treatment. Children also frequently complain of headaches upon arising in the morning and immediately after naps. Such headaches, he said, may represent a need for carbohydrates—a need which can be remedied by additional consumption of sweets.

Acute illnesses commencing with high fever may cause headaches in children, Dr. Fabricant stated. A headache may be an early symptom of scarlet fever, mumps, measles, chicken pox, kidney disorders, poliomyelitis, or an infection in the ear.

However, a child may just have "headaches of convenience," Dr. Fabricant pointed out, adding:

"By imitating his parents, a young child may quickly grasp the excuse value of headache as a means of escaping from an undesirable or unpleasant task."

PUBLIC HEALTH

Mack I. Shanholtz, M.D.,
State Health Commissioner of Virginia

Psittacosis.

With the report of a case of psittacosis, the first since 1949 in Virginia, our attention is again directed to this disease, sometimes called ornithosis.

The etiological agent is a specific virus which passes through only rather coarse filters. The source of the infection is usually some one of the psittacine birds, parrots, parakeets, love birds, etc., but it has also been found in canaries, pigeons, ducks, and turkeys. Infection of human beings occurs by inhalation of infected dried materials in the form of dust or from droplets coughed by infected patients. Birds that are apparently well occasionally transmit the infection. The incubation period is from 6 to 15 days, with an average of about 10 days.

The findings of a Board appointed in 1950 by the Surgeon General of the Public Health Service were that psittacosis is no longer a major public health problem in the United States; that it has a much wider reservoir than the birds of the psittacine family and that the development of the antibiotic drugs has reduced the mortality of this disease to a very low level. Because the disease is no longer a major public health problem does not mean that we should have little concern for it.

Foreign Quarantine Regulations and Interstate Quarantine Regulations of the Public Health Service mainly control the traffic in psittacine birds and certain states have adopted regulations governing these birds. Shipments of psittacine birds from psittacosis-free areas in the United States is permitted. Whenever the Surgeon General of the Public Health Service finds that psittacine birds or human beings in any area are infected with psittacosis and there is such danger of transmission of the disease from this area as to endanger the public health, he may declare it an area of infection and prohibit shipment of the birds from the area. None of the regulations of the Public Health Service affects the standing requirement that interstate shipments of psittacine birds must be covered by a permit when it is required by the health department of the state of destination.

Because infections are comparatively infrequent, it is important to remember this disease in illnesses that do not present a clean-cut diagnosis but present respiratory involvement. The history of exposure to birds is most important. Blood for complement fixation tests should be taken as early as possible in the course of the disease and again later for comparison in rise of titre. If suspected birds have not died they should be killed. The bodies of these birds should be wet with 5% lysol solution and they should be wrapped in cloths soaked in the solution. They should then be quick frozen and Air Expressed in dry ice to the proper laboratory for examination and diagnosis of the disease. The State Health Department should be informed and complete directions for mailing will be supplied on notification.

Early treatment of the patient with appropriate antibiotics is indicated and is desirable not only from the standpoint of treating the patient, but also as a means of shortening the period of communicability of the disease.

Monthly Report of the Bureau of Communicable Disease Control

	May 1953	May 1952	Jan.-May 1953	Jan.-May 1952
Brucellosis	4	2	20	9
Diarrhea & Dysentery	56	27	397	1042
Diphtheria	3	8	48	44
Hepatitis	345	57	1097	303
Measles	1252	3392	3573	12949
Meningitis	17	28	120	110
Poliomyelitis	9	0	19	11
Rocky Mt. spotted fever	6	6	8	9
Scarlet fever	116	71	580	452
Tularemia	1	4	15	26
Typhoid and Paratyphoid	5	3	21	21
Rabies in Animals	41	48	234	271

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department Mental Hygiene and Hospitals

The Mental Hygiene Clinic and Community Relationships.*

A Mental Hygiene Clinic has been considered in some detail in previous articles submitted in this Journal. Its origins, its component parts of Psychiatrist, Social Worker, and Psychologist making up the team and the types of problems it seeks to solve have been presented.

Another aspect of clinic functioning that needs further clarification is the role a community plays in a clinic and the role a clinic plays in a community.

A Mental Hygiene Clinic is designed to serve the individual in the community.

Stanley I. Gochman states:

" . . . It is important that the patient comes to feel that he has some connection and concern with the community and the outside world, and it is just as important that the community comes to recognize the patient as an individual and a member of society, and recognizes its responsibilities toward him."

The latter part of the above paragraph may be considered the basis for this article. A community's interest in the individual is obvious in that a mental hygiene clinic is in part community financed. A clinic is not selective of those it seeks to help. Any person in a community may seek its help. Many individuals who are aware that they need help will spontaneously seek clinic help. Others seek help from either private physicians or community agencies. It is through the discernment of doctors and agency workers of a deeper psychic problem being present that the patient is referred to a clinic for study and treatment. A cooperative spirit between a clinic and community must be maintained if the individual is to be helped.

Schools are a part of a community that frequently seek clinic guidance. One type of problem that schools frequently refer to the clinic is a child who does not seem to be adjusting well in school work. The marks are low. There is inattention and restlessness. After clinic examination, it is often revealed that the I.Q. is low, and therefore, a child is not capable of doing average school work. The clinic then must suggest the best way to handle this problem. In some cases it is felt that a child should be taken out of school and have a private instructor, if possible. In other cases a special private school might be suggested, if there are sufficient financial resources in the family. In still other cases, if the situation warrants, he could be sent to the state training school. Occasionally also, a child might adjust better if he were sent to a lower grade.

Another type of school referral is a child who is a behavior problem. Truancy, belligerency and open defiance are the symptoms often seen. Through a complete clinic work-up it may be found that there is a basic emotional need, such as affection, which a child has not been getting or that there is incompatability between the child's parents. Sometimes it is found that this behavior disturbance is deep-seated and a child has been a problem almost since infancy. A clinic tries to work through personal and interpersonal conscious and unconscious problems and tries to relate them to the environmental situation as well as to the school situation. Conferences between the school, the therapist team, and the parents of the child should be held in such cases. Parents and schools will approach the situation from different points of view. A therapist tries to adjust the individual to the environment and in doing so it necessarily has to be permissive. Often, when ideas are opposed, it is necessary to some extent to compromise. A clinic needs school cooperation in requesting certain types of school placement for certain problem children.

School and other problems may be caused by speech disorders. Some speech disorders have the background of mental deficiency. It is important for the speech therapist to know this so a child is referred to the clinic for psychological testing. At other times there seems to be an emotional disturbance and, of course, it is important that a clinic be contacted to go into this in its full detail, as well as to institute therapy at a clinic level and it is necessary to in-

*Article prepared by Wendell J. Pile, M.D., Director, Lower Peninsula Mental Hygiene Clinic, Newport News, Virginia.

tegrate these functions by having conferences between a speech therapist and a clinic therapist.

Other agencies also contribute referrals, such as, family counseling agencies. In their counseling they often feel a deep-rooted neurosis is present that may need resolving before the family can function happily as a unit. The problem also may be presented to a clinic by one party coming to the clinic because of an emotional disturbance in which he blames the emotional disturbance upon his marriage partner. If there is complete cooperation between the marriage partner and the patient, it is possible to work with them individually at a clinic, and it is also possible to refer one of the partners to a family counseling agency. Conferences are again mandatory and it is necessary often to see husband and wife together with a family counseling representative and a clinic therapist. Suspiciousness and misunderstandings can frequently be erased through frank discussion by all present.

Another field of community problem involves the courts and clinics. Cases in which the judge feels there is an emotional component are often referred to a clinic for observation and findings and frequently for subsequent treatment. In such a case a clinic feels its responsibilities not only to the court, but also to the individual. It is true where court cases are referred for psychiatric treatment, that there must be a willingness on the part of the person to accept psychiatric care. If he doesn't have that willingness, therapy is not always successful.

A Clinic also helps in assaying the intelligence of children who are up for adoptive placement. Here the cooperation is between a welfare agency and a clinic. A clinic is frequently asked to determine the mental capabilities and potentialities of those asking for state assistance. Whenever indicated, treatment is instituted which may result in the person becoming self-sufficient.

A clinic also needs the cooperation of other agencies in its treatment of all facets of the patient's personality. Socialization of certain individuals is mandatory. The Boy Scouts, Girl Scouts, Y.M.C.A., Y.W.C.A. and clubs of all kinds play a part in this aspect of treatment. A clinic strives for the individual to accept the group (in certain cases) and the group assumes its role by accepting the individual.

An attempt has been made to show the inter-relationships of a mental hygiene clinic with a community. It is self-evident that only through team spirit and a feeling of cooperation between referring agencies and a clinic, can an individual assume his rightful independence and social maturity.

If Good Public Relations Begin at Home
What does your reception room look like?

THE MEDICAL SOCIETY OF VIRGINIA

Polio Committee Report

Distribution of Gamma Globulin for Poliomyelitis.

The Polio Committee of The Medical Society of Virginia met in the Conference Room of the State Department of Health to advise with them concerning the use and distribution of gamma globulin.

It was felt that the use of gamma globulin is the best means we have to protect against poliomyelitis. It is not exactly what is desired, for gamma globulin will have to be given to a large group of contacts in order to prevent effectively poliomyelitis in one who may develop the disease when exposed. This was the experience of those who used gamma globulin last year in attempting to prevent poliomyelitis. The supply of gamma globulin is to be distributed to the various states.

Since the entire amount of gamma globulin available to Virginia is to be sent to the State Department of Health, the following plan of distribution has been established:

1. All gamma globulin will be allocated to the City and County Health Departments on a population basis.
2. *Eligibility:*
   a. Those children from 6 months to 15 years of age who are household contacts of confirmed cases of poliomyelitis. (Household contacts will include those living in the same house with common bathroom and table facilities.)
   b. All cases of pregnancy who are household contacts as described above.
3. Requests for gamma globulin may be made by physicians to Directors of City or County Health Departments on forms supplied to those offices.
4. The gamma globulin which has been assigned for the protection against measles and infectious hepatitis is not to be used for the protection against poliomyelitis.

These request forms for gamma globulin are to be filled out by the physician stating the names of the contacts, their ages and weights and to what case of poliomyelitis they were exposed. The approximate dosage will be recommended on the request slip.

With more than 1,000,000 children coming within the age group and a supply of gamma globulin available for approximately 3,000 contacts, the necessity for wise use of material is evident.

It is recommended by the Commiteee that the physicians of Virginia take advantage of this means of protection against poliomyelitis by cooperating with the State Health Department.

POLIO COMMITTEE OF THE MEDICAL SOCIETY OF VIRGINIA

LEE E. SUTTON, JR., M.D., *Chairman,* Richmond

R. B. BOWLES, M.D., Mathews

E. A. HARPER, M.D., Lynchburg

ROBERT C. HOOD, M.D., Arlington

ROY M. HOOVER, M.D., Roanoke

ALBERT S. MCCOWN, M.D., Richmond

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—
Mrs. Thomas N. Hunnicutt, Jr., Newport News
President-Elect—Mrs. K. W. Howard, Portsmouth
Treasurer—Mrs. Wm. C. Barr, Richmond
Recording Secretary—Mrs. Lee S. Liggan, Irvington
Corresponding Secretary—
Mrs. F. A. Carmines, Newport News
Publication Chairman—
Mrs. Robert H. Detwiler, Arlington

Nurse Recruitment

The Woman's Auxiliary to the Alexandria Medical Society has again sponsored a Girl Scout Troop this year and Mrs. James Moriarty has accompanied 24 Scouts on two trips, one to the University Hospital in Charlottesville and another to the Tuberculosis Sanitarium at Glendale, Md. Both trips were, primarily, to further the interest in a nursing or public health career. Of the four Scouts who were interviewed at Charlottesville, two were accepted for enrollment in the autumn class. The Auxiliary feels that they are responsible for recruiting at least four student nurses this year. They maintain a scholarship fund for the use of eligible students interested in a nursing education at Alexandria Hospital.

New Officers and Committee Chairmen.

The Richmond Auxiliary held its last meeting on May the 15th at which time the following officers were elected:

President—Mrs. Custis L. Coleman
President-Elect—Mrs. J. R. Grinels
Vice President—Mrs. George H. Snead
Treasurer—Mrs. Carl Meador
Corresponding Secretary—Mrs. William H. Cox
Assistant Corresponding Secretary—Mrs. George D. Vaughan, Jr.
Recording Secretary—Mrs. William C. Barr
Historian—Mrs. Gilman R. Tyler
Parliamentarian—Mrs. J. David Markham

The president appointed the following committee chairmen:

Standing Committee Chairmen:
Editorial—Mrs. J. R. Grinels
Today's Health—Mrs. Albert L. Edmonds
Bulletin—Mrs. M. J. Hoover, Jr.
Legislative—Mrs. L. W. Hulley, Jr.
Membership—Mrs. Maynard Emlaw
Program—Mrs. George H. Snead
Public Relations—Mrs. William Harris and Mrs. Randolph Hoge
Revisions—Mrs. Edward Ray and Mrs. L. Benjamin Sheppard

Special Committee Chairmen
Civil Defense—Mrs. Frederick L. Finch
Devotional—Mrs. Hawes Campbell
Doctor's Day—Mrs. Russell Snead
Flowers—Mrs. George K. Brooks, Jr.
Luncheon—Mrs. Wyndham Blanton, Jr.
Co-Chairman—Mrs. A. A. Houser
Nurse Recruitment—Mrs. Walter H. Buffey
Personal Relations—Mrs. C. C. Trice
Romance and Research—Mrs. George Ritchie
Telephone—Mrs. Charles Romaine
Volunteer Work—Mrs. G. Douglas Hayden
Ways and Means—Mrs. W. P. Morrissette
Year Book—Mrs. Berkeley H. Martin, Jr.

EDITORIAL

Walter B. Martin, President-Elect A. M. A.

THE first President of the American Medical Association was Nathaniel Chapman, a Virginian who had succeeded Benjamin Rush in Philadelphia as leader in the profession. Few Virginians, scarcely more than a half-dozen, have been elected to this high office since and of these only three were elected from The Medical Society of Virginia. Dr. Walter Bierring in his "Biographies of the Presidents of the American Medical Association 1847-1947" gives us a composite picture of these presidents. Their average age was 59.8 years. Almost all were at some time a teacher. All took part in one or more wars and there has been no war in which this country has engaged, including the war of 1812, in which one or more of these doctors did not participate. Forty-six were classed as general surgeons, twenty-two were internists, eight were general practitioners, six were obstetricians. There were two psychiatrists and two ophthalmologists, and one each in the following specialty; orthopedics, pathology, pediatrics, dermatology, biochemistry, otology, gastro-enterology, urology, and administration. For the first seventy-five years the presidents were apparently chosen for their outstanding professional reputation. More recently emphasis has shifted to ability to further social welfare. Our new President-Elect qualifies by either standard.

Walter Bramblette Martin was born January 16, 1888 in Pulaski, Virginia. He graduated with a B.S. degree (1909) from Virginia Polytechnic Institute. He taught chemistry and mathematics at the Norfolk Academy from 1909 to 1912 when he began the study of medicine at Johns Hopkins, graduating in 1916; served as resident house officer Johns Hopkins Hospital until the first World War; was commissioned 1st Lieutenant April 1917; served in France and was discharged with the rank of Captain June 15, 1919. In September he entered the practice of medicine in Norfolk, Virginia, where he quickly became not only a leading doctor but a leading citizen. He was president of the Community Fund for two years, president of the Norfolk Hospital Association and vice-president of the Tidewater Hospital Service Association. In the second World War he re-entered the Army and served as colonel U.S.M.C. chief of medicine, Percy Jones Hospital, Battle Creek, Michigan, September 1942 to September 1943; medical consultant Fifth Service Command, July 1944; medical consultant 10th Army, and civilian medical consultant to Surgeon General of the Army.

He is a diplomate of the American Board of Internal Medicine and since 1944 a member of the Board of Regents of the American College of Physicians. Among his other special societies are; the American Clinical and Climatological Association, the Association for the study of Allergy and the American Association for the Study of Rheumatism.

His record in organized medicine is an impressive one. On the local level he has been president of the Norfolk County Medical Society and of the Seaboard Medical Association. He was president of The Medical Society of Virginia in 1941. For years he has been a member of its House of Delegates and of its Council. No committee assignment has been too arduous or time-consuming for him, and his efficiency has been so great that these assignments have been numerous.

Dr. Martin's activities in the American Medical Association have been equally noteworthy. He has been a member of the House of Delegates, the Council on Medical Service, the Commission which went to England in 1950 to study the effect of the National Health Program, and the Board of Trustees. In fact in the past few years

most of his time has been spent traveling back and forth to the headquarters in Chicago and before Congressional hearings in Washington. No President-Elect has had a more intensive training for his position, and the Virginia Medical Monthly wishes him all success.

Cox's Snow

COX'S snow is a tradition on the Southside. At the beginning of the century old folk were still talking about the great blizzard that cost Dr. Edwin Cox his life. It was, and still is, the greatest snow storm that has ever visited the neighborhood within the memory of man. No big snow escaped a comparison with it. Just last year, in a feature article in the *Richmond News Leader,* George W. Rogers called it "the dean of snows in Richmond". The snow fell January 18 and 19, 1857, and was two or three feet deep with drifts of six to eight feet and the weather was bitter cold. On January 22nd the temperature was three degrees below zero and on January 23rd it was 18 degrees below.

On Sunday afternoon, January 18th Dr. Cox accompanied by his nephew, Mr. Robert C. Traylor, left Petersburg in the face of a raging snow storm to drive to his home in Chesterfield. Night overtook them when they reached the home of Dr. Robert Grymes, Dr. Cox's son-in-law. Dr. Grymes begged them to spend the night but they decided to push on over a familiar short cut to their destination. They had gone only a short distance when the buggy struck a hidden log and the singletree was broken. Dr. Cox got out and was entrapped in a snow drift where he was found the next morning frozen to death. Young Traylor was found in the buggy, his face, hands, and feet frozen, and he never regained consciousness. According to a note in the *Dale Parish Register* by the Rev. A. Blizzard, Dr. Cox was buried at his plantation "Sappony" in Chesterfield, January 23, 1857.

Such are the main events of the catastrophe. A number of accounts have come down to us. (A) The news account in the *Daily Dispatch* of January 22, 1857. This was three days late because of the disruption in communication caused by the storm; (B) Abstracts from the unpublished History of Chesterfield County by Judge Edwin P. Cox kindly furnished the writer by his son Col. Edwin Cox; (C) My Confederate Girlhood by Kate Virginia Cox Logan (1932); (D) Seventy Years in Old Virginia by Dr. John Herbert Claiborne (1904); (E) Historic Sights and People of Chesterfield County, Virginia by Mrs. Maud Adkins Joyner (1950); (F) George W. Rogers in *The Richmond News Leader,* January 29, 1952.

According to tradition, the purpose of the trip was to see a patient. His "Aunt Kate" (C) says that he had been to Petersburg to visit a patient and was returning home. No other printed account mentions a patient. The History of Chesterfield County (B) also says that Dr. Cox was returning home when overtaken by dark. (A), (D), (E) and (F) say that Dr. Cox was on his way to visit his brother, Judge James Cox. Two accounts (B) and (C) state that the horse was frozen.

Dr. Joseph Edwin Cox was the eldest son of Captain Henry Cox of Sappony in Chesterfield and his wife Mary Traylor. The other children of this marriage who reached maturity were: James Henry (later Judge), Minerva Archer who married Daniel Spencer Woolridge, Judith Elizabeth Chappell who married James Howlett, and Mary M. M. who married Joseph Mann. He was born at Sappony, October 10, 1806, and was educated at home and at Jefferson Medical School in Philadelphia.

He began to practice in the southwestern part of Chesterfield, but soon moved to Petersburg where he built up an excellent practice. At one time he was the vice-president of the Medical Faculty, as the doctors called their local society. He represented the City of Petersburg in the General Assembly and was at one time Mayor of Petersburg.

He married Sarah M. Burge and they had the following children: Mary Page who married Dr. Robert R. Grymes, Joseph Edwin who married Ella Cooper, and Henry Cargill who married Emma, the widow of his cousin, James Paper Cox. At the time of his tragic death he was living at Sappony having retired from practice in Petersburg.

How medicine has changed in the 97 years since Dr. Cox practiced the art in Petersburg! There were no hospitals and no laboratories. Practice, even surgery, was confined to the patient's home. Anesthesia was in its infancy and the American Medical Association had a standing committee on anesthesia that gave a report on its progress each year. Nearly all obstetrics was in the hands of midwives and maternal mortality was high—how high we do not know for there were no vital statistics. Birth trauma must have been common but for the most part was untreated. Dr. Peter Mettauer, who lived in nearby Prince Edward County, reported on five cures of vesico-vaginal fistulas in 1847 and by 1855 he had seen 32 cases, but it was not until Marion Sims reported on his method of operation in 1852 that this became an accepted practice. Even lacerations of the perineum went unrepaired. Mettauer's report of a successful repair in 1833 with metallic sutures led Sir James Y. Simpson to attempt the operation. Puerperal fever was the only continued fever that was differentiated from the other "continued" fevers that were so prevalent. Dysentery and intestinal diseases prevailed generally. Vaccination against smallpox offered the only opportunity for preventive medicine, and quinine for fever, mercury and iodide for syphilis, and iron for anemia were the nearest approach to specific treatment.

To compensate for their limited therapeutic resources, Dr. Cox and his colleagues were filled with sympathetic understanding and brought comfort to their patients. They responded when called, regardless of weather or hardships, and their patients had the best help that current medical knowledge afforded. The legend of Dr. Cox's being lost while on a mission of mercy in a record breaking blizzard is thoroughly *in character.*

SOCIETIES

The Medical Association of the Valley of Virginia

Met at Sharon Tavern near Clifton Forge on May 28, Dr. Lewis K. Woodward, Jr., Woodstock, presiding. At the morning session, there were reports of clinical cases and the following papers:

Carcinoma of Cervical Stump with Solitary Lung Metastasis—Dr. Richard Hughes, Winchester

Combined Intrauterine and Tubal Pregnancy—Dr. Thomas G. Bell, Staunton

Parotid Tumor—Drs. Randolph T. Shields and Karl Menk, Staunton

Genital Anomalies by Dr. Howard Mays, guest speaker of Baltimore.

Following lunch, Dr. John M. Emmett of Clifton Forge gave Comments on the Military Status and Availability of Physicians.

At a business session it was decided that the next meeting would be at Harrisonburg on September 24, with Dr. Murray Copeland, the guest speaker.

His subject will be "Pre-Malignant Lesions of the Breast".

The Warwick-Newport News Medical Society

Has had interesting meetings for the past several months, following a social hour and dinner. The March meeting was held at the James River Country

Club with Dr. Norman F. Conant of Duke Hospital, Durham, as the guest speaker, his subject being "Recent Advances in Treatment of Fungus Diseases".

At the April meeting at Chamberlin Hotel, Dr. W. Ross Southward, Jr., of the State Health Department, Richmond, spoke on "The Role of the Doctor in Civilian Defense".

Dr. Milton S. Sacks, Professor of Hematology and Laboratory Medicine at the University of Maryland, Baltimore, May 12, at James River Country Club, spoke on recent studies and significance of the Rh factor.

Dr. O. Watts Booth and Dr. W. Ward Anderson, both of Newport News, are president and secretary, respectively.

Accomac County Medical Society.

At a meeting of this Society at Onancock, May 6, the following officers were elected: President, Dr. Belle DeCormis Fears, Accomac; vice-president, Dr. William Clay Fritz, Onancock; and secretary-treasurer, Dr. James C. Doughty (re-elected), Onancock. Delegate and alternate to the State Society meeting were also elected. Dr. Walter A. Eskridge of Parksley was named to represent the Society on Public Relations, and Dr. J. Fred Edmonds and Dr. Belle DeCormis Fears of Accomac were elected to membership on the Board of Trustees of the Northampton-Accomac Memorial Hospital for a term of four years.

Alexandria Medical Society.

At the meeting of this Society on May 21, the new officers for 1953-1954 were installed as follows: President, Dr. John C. Watson; vice-president, Dr. Christopher J. Murphy, Jr.; and secretary-treasurer, Dr. Alvin C. Wyman. All are of Alexandria.

The Fairfax County Medical Society

Met on Tuesday, May 12th, at the home of Dr. Emanuel Newman at Falls Church. After the business session, Dr. W. S. Matthews, a Navy physician, spoke on medical practice in Greece. The meeting was held outdoors, and later adjourned for refreshments.

The June meeting of this Society was held on the 9th of the month at the home of Dr. Claude Cooper at Annandale.

Alice Kiessling, M.D.
Publicity Committee.

The Albemarle County Medical Society

Held a supper meeting at Hotel Albemarle in Charlottesville, on June 4th. Dr. David Lucas was the speaker at this meeting, his subject being "Blood Dyscrasias Due to Drugs". Dr. E. D. Davis of Crozet is president of the society and Dr. A. P. Booker of Charlottesville secretary.

Roancke Academy of Medicine.

The following have been elected as officers of the Academy for the coming year, and will be installed on October 5: Dr. C. D. Nofsinger, President; Dr. Allen Barker, President Elect; Dr. Hugh J. Hagan, Sr., Vice-President; and Dr. Charles B. Bray, Jr., Secretary-Treasurer. All are of Roanoke.

Augusta County Medical Association.

At the meeting of this society in May, Dr. S. G. Saunders of Waynesboro was elected president, succeeding Dr. C. W. Putney of Staunton. Others named to serve with Dr. Saunders are: Vice-presidents, Dr. William Lueders, Jr., Staunton; Dr. C. C. Freed, Waynesboro; and Dr. I. M. Nuckols, Staunton; secretary, Dr. John T. Obenschain, Waynesboro; treasurer, Dr. William E. Harman. Dr. C. W. Putney was named a censor.

Hopewell City Medical Association.

New officers of the Hopewell society are Dr. Clyde H. Dougherty, President, and secretary Dr. W. P. Youngblood, both of Hopewell.

Virginia Peninsula Academy of Medicine.

Addressing the Academy at its May meeting was Dr. Stuart C. Finch, Associate Professor of Medicine, Boston University Medical School, Boston, Mass. The meeting was held May 18 at the Kecoughtan Veterans Administration Hospital, Hampton, following a cocktail party and dinner. Dr. Finch conducted a clinico-pathological conference on three cases involving blood disease. Dr. Edgar Baron, Pathologist of the Kecoughtan Hospital, also participated.

New officers of the Academy were elected. Dr. Chester D. Bradley, Newport News succeeded Dr. Barnes Gillespie of Warwick as President; Dr. Harry Nushan, Chief, Medical Service, Kecoughtan Hospital, succeeded Dr. Oscar W. Ward, Jr., of Hampton as Vice-President; and Dr. William Watkins, Newport News, replaced Dr. George S. Grier, III, of Newport News as Secretary-Treasurer.

The Academy then recessed till next September.

NEWS

Commencements of Medical Schools.

MEDICAL COLLEGE OF VIRGINIA

Entertainments incident to the commencement, with alumni meetings and banquet, were held May 31, June 1 and 2. Dr. Theodore F. Adams gave the commencement sermon at the First Baptist Church on May 31, and alumni and other affairs kept the graduates and visitors busy. The alumni association, which had been headed by Dr. H. Hudnall Ware of Richmond, installed the new officers as listed on pages 298-9 of the May issue of the MONTHLY, with Dr. J. Asa Shield of Richmond succeeding to the presidency.

Preceding the final reception and dance, honorary degrees were conferred upon three of the medical alumni—Dr. Jack W. Witten, physician and legislator of North Tazewell; Colonel Richard Henry Eanes, M.C., chief medical officer of the Selective Service System; and Dr. Richard Hugh Wood, dean of Emory University School of Medicine—and diplomas were awarded to one hundred graduates in medicine and to many more in dentistry, pharmacy, nursing, physical therapy, hospital administration and other specialties. Names of the graduates in medicine with their hospital appointments are:

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Drs. Charles Lee Boatwright, Marion; Dominic Anthony Brancazio, Weirton, W. Va.; George Edward Chappell, Crewe; Robert Edward DeBord, Chatham Hill; Ota Treville Graham, Jr., Richmond; Robert Oscar Hudgens, Lynchburg; Raymond Jack Irons, Ronceverte, W. Va.; Arch Thomas McCoy, II, Peterstown, W. Va.; Leroy Sutter McDaniel, Ettrick; Philip Royden Mason, Norfolk; George Naymick, Weirton, W. Va.; Alger Rixey Southall, Jr., Pamplin; Thomas Pierson Stratford, Burlington, N. C.; James Hugh Wiley, Logan, W. Va.; Allan William Wright, Norfolk.

STUART CIRCLE HOSPITAL, Richmond — Drs. Charles Pinchbeck Harwood, Richmond; Earnest Conrad Hermann, Richmond; Farrar Wakefield Howard, Richmond; Norman Clydlee Ratliffe, Clintwood.

JOHNSTON-WILLIS HOSPITAL, Richmond — Dr. Wilmore Randolph McLeod, Glen Allen.

JOHNSTON MEMORIAL HOSPITAL, Abingdon—Dr. Robert Francis Barbe, Bristol.

U.S. NAVAL HOSPITAL, Portsmouth—Drs. Dudley Earl Brown, Jr., Berryville; William Paul Fletcher, Harrisonburg; Raymond Cottrell Hooker, Jr., Richmond; Arthur McKinley Reynolds, Jr., Covington.

LEWIS-GALE HOSPITAL, Roanoke—Drs. Herman Wallace Brubaker, Rocky Mount; Alvin Eugene Conner, Manassas; Harry Isaac Johnson, Jr., Salem; Moir Glenwood Martin, Hillsville.

RIVERSIDE HOSPITAL, Newport News—Drs. Kenneth Melvin Clements, Portsmouth; Cecil Franklin Evans, Jr., Richmond.

WINCHESTER MEMORIAL HOSPITAL, Winchester —Dr. Catherine Elizabeth Craun, Mt. Crawford.

NORFOLK GENERAL HOSPITAL, Norfolk—Drs. Calvin Sampson Garrett, Madison Heights; William Neville Gee, Jr., Kenbridge; Warren Cleaton Hagood, Clover; Frank Edward Rowell, Salem; Charles Gerhard Thedieck, Jr., Suffolk.

U. S. PUBLIC SERVICE HOSPITALS, Norfolk—Dr. Allen Chapman Pirkle, Prince George.

NORTH CAROLINA MEMORIAL HOSPITAL, Chapel Hill, N.C.—Drs. Simeon Huey Adams, Gastonia, N.C.; George Lee Wilkinson, South Boston.

DUKE HOSPITAL, Durham, N.C.—Dr. Baxter Hayes Byerly, Lenoir, N. C.

THE MOSES H. CONE MEMORIAL HOSPITAL, Greensboro, N.C.—Dr. Jean Fensom Ragsdale, Richmond.

CINCINNATI GENERAL HOSPITAL, Cinncinnati, Ohio—Drs. James Gordon Beach, Jr., Gary, W. Va.; Mary Dorcas Brown, Buckhannon, W. Va.; William Raymond Johnson, Jr., Mt. Sidney; Arthur Sanders, Charleston, W. Va.; Raymond Jay Thabet, Charleston, W. Va.

MERCY HOSPITAL, Springfield, Ohio—Drs. Wesley Clifford Bernhart, Richmond; Harvey Edward Melton, Richmond; Samuel Stuart Morrison, Sandston; Charles James Townsend, Harrington, Del.; Woodrow Wilson Wren, Richmond; Mattie Louise Young, Charleston, W. Va.

SPRINGFIELD CITY HOSPITAL, Springfield, Ohio—Drs. Frank Vernon Hodges, Bluefield, W. Va.; Ralph Lee Kendall, Springfield, O.

HAWKES HOSPITAL OF MT. CARMEL, Columbus, Ohio—Drs. Robert Winfield Howes, Jr., Parkersburg, W. Va.; George Eugene McCarty, Salem, W. Va.

University Hospitals, Cleveland, Ohio—Dr. James Edward Moore, III, Huntington, W. Va.

Ohio State University Hospital, Columbus, Ohio—Dr. Ross Moore Orr, Jr., Chatham Hill.

Mid-State Baptist Hospital, Nashville, Tenn. —Drs. Hoyle Edgar Bowman, Newport News; Richard Holloday Smith, Radford.

City Hospital, San Juan, P.R.—Dr. Carmen Margarita Caceres-Echandi, Juncos, P.R.

Wesley Memorial Hospital, Chicago, Ill.—Dr. Lillian Chan, Canton, China.

University of Illinois Research and Educational Hospital, Chicago, Ill.—Dr. Julie Clara Moller, Caracas, Venezuela.

Charleston General Hospital, Charleston, W. Va.—Drs. Donald Edward Cunningham, St. Albans, W. Va.; Charles Joseph Davis, Jr., Nitro, W. Va.; John Rebman, III, Richmond.

Brooke Army Medical Center, San Antonio, Texas—Dr. Pleasant Paul Deaton, Statesville, N.C.

San Francisco Hospital, San Francisco, Calif. —Dr. Mary Catherine Duckgeischel, Santa Clara, Calif.

Los Angeles County Hospital, Los Angeles, Calif.—Dr. Julius Griffin, Los Angeles, Calif.

U.S. Naval Hospital, San Diego, Calif.—Dr. Verbon Eric Kemp, Jr., Richmond.

U.S. Naval Hospital, Philadelphia, Pa.—Dr. Ernest Gray Edwards, Hampton.

Presbyterian Hospital, Philadelphia, Pa.—Dr. William Ned Haynes, Welch, W. Va.

Philadelphia General Hospital, Philadelphia, Pa.—Drs. Edward Claiborne Irby, Blackstone; Alvin Quarles Jarrett, Roanoke; George Bernard Massie, Pounding Mill; William Burwell Tarry, Jr., Brookneal; John William Watson, Richmond; William Greene Way, Winchester.

Greenville General Hospital, Greenville, S.C. —Dr. Hugh Lanier Farrior, Concord, N.C.

U.S. Naval Hospital, Charleston, S.C.—Dr. William Latane Flanagan, Bremo Bluff.

Roper Hospital, Charleston, S. C.—Dr. Max Sanford Rittenbury, Charlotte, N. C.

Montreal General Hospital, Montreal, Canada—Dr. Allan Louis Forbes, Richmond.

Mound Park Hospital, St. Petersburg, Fla.— Drs. Earl Russell Fox, Naruna; Charles Wellington Richardson, Salem; Walter Jackson Stanford, Galax; Paul Alexander Tanner, Jr., and Terry Finley Tanner, Quitman, Ga.

Orange Memorial Hospital, Orlando, Fla.— Dr. John Calver Shipper, Martinsburg, W. Va.

Fitzsimons Army Hospital, Denver, Colo.—Dr. Joseph Erskin Gardner, Hillsville.

University Hospital, Augusta, Ga.—Drs. Frederick True Given, Jr., Chase City; Harold Winfred Kimmerling, Roanoke; Robert Melvin McDonald, Oak Hill, W. Va.

University of Texas Hospitals, Galveston, Tex.—Dr. Robert Burwell Groves, Jr., Lowell, N.C.

Bellevue Hospital, Second Medical Division, New York, N. Y.—Dr. Lawrence Charles Rosenberg, Alexandria.

Massachusetts Memorial Hospital, Boston, Mass.—Dr. Malcolm Lee Rosenblatt, Norfolk.

Worcester City Hospital, Worcester, Mass. —Dr. Robert Edward Ware, Fairfax.

Central Dispensary and Emergency Hospital, Washington, D. C.—Dr. Henry Sumpter Spencer, Jonesville.

Army Medical Center, Washington, D. C.—Dr. Thomas Harry Webb, Portsmouth.

Dr. Thomas James Conaty of Huntington, W. Va., was also a member of this class with no hospital appointment given.

University of Virginia
School of Medicine

Finals at the University of Virginia for all departments started on June 12, the alumni playing an important part in the exercises. There was a special program for the medical school graduates on Friday the 12th. The alumni played golf in the afternoon and class dinners were held that night. At a scientific program in the morning, Dr. Robert L. King, class of '28, of Seattle, Wash., gave an address on "Rheumatic Fever and Heart Disease", which was followed by reports of medical studies in progress at the University by members of the faculty. At a luncheon that day Dr. Thomas H. Hunter, who assumed the deanship of the Medical School in February, outlined future plans and policies. Dr. Carrington William of Richmond, president of the Medical Alumni Association, was the dinner speaker. Governor Battle, an alumnus of the law class of 1913, delivered an address to the graduates following the conferring of degrees on Monday afternoon. Names of graduates in the School of Medicine with hospital appointments are:

University of Virginia Hospital, Charlottesville—Drs. Cavitt Kinkle Bartley, Thaxton; William

Patrick Coleman, Lynchburg; Sterling Randolph Decker, Charlottesville; Patrick Campbell Devine, Norfolk; Julia Emmett Edmunds, Clifton Forge; James Harry Gamble, Marion; David Goodsell Hall, III, Arlington; Edward Harrison Hancock, Jr., Lynchburg; David Benson Kruger, Norfolk; Charles Hunter Montgomery, Lexington, Ky.; Luther M. Talbert, Meadowview; John Herndon Vansant, Chatham; Emery Mittchell Ward, Fayetteville, Ark.

JOHNSTON-WILLIS HOSPITAL, Richmond—Dr. William G. Allen, Jr., Emporia.

MEDICAL COLLEGE OF VIRGINIA HOSPITAL, Richmond—Dr. Walter Fitch Manley, Jr., Roanoke.

NORFOLK GENERAL HOSPITAL, Norfolk—Drs. Alvin Cohen, Petersburg; Royce Linton Holsey, Jr., Portsmouth; Robert Henry Jordan, Charlottesville.

MEMORIAL AND CRIPPLED CHILDREN'S HOSPITAL, Roanoke—Dr. Thomas David McDonald, Roanoke.

OHIO STATE UNIVERSITY HOSPITAL, Columbus, Ohio—Drs. Betty Austin Agee, Warrenton; Richard Bryan Agee, Warrenton; Lester Ray Bond, Roanoke; William A. Scoggin, Liguanea, Jamaica, B.W.I.

CINCINNATI GENERAL HOSPITAL, Cincinnati, Ohio—Drs. John Walter Carlysle Johnson, Jr., Clifton Forge; James Linwood Odom, Norfolk; Samuel Nimrod Whitacre, Cross Junction.

SAN JUAN CITY HOSPITAL, San Juan, P. R.—Dr. Pedro Juan Alfaro, Santurce, P.R.

BARNES HOSPITAL, St. Louis, Mo.—Drs. Fred Berry Ballard, Jr., Chattanooga, Tenn.; William K. Smoth, Jr., Annapolis, Md.

ST. LOUIS CITY HOSPITAL, St. Louis, Mo.—Drs. Robert Bailey Deitchman, Martinsville; Paul Wiley Gordon, Jr., Clifton.

WATTS HOSPITAL, Durham, N. C.—Dr. Otha A. Barnhill, Greenville, N. C.

NORTH CAROLINA MEMORIAL HOSPITAL, Chapel Hill, N. C.—Drs. Alton James Coppridge, Durham, N. C.; Luther William Oehlbeck, Jr., Morgantown, N. C.

REX HOSPITAL, Raleigh, N. C.—Drs. William Harold Lilly, Waynesboro; Bobby L. Smith, Port Republic.

EMORY UNIVERSITY HOSPITAL, Emory University, Ga.—Drs. William Harvey Cabaniss, Jr., Athens, Ga.; Fred Neal Mitchell, Charlotte, N.C.

MCKEESPORT HOSPITAL, McKeesport, Pa.—Dr. James Monroe Carter, Lowesville.

VALLEY FORGE ARMY HOSPITAL, Phoenixville, Pa. (Army Medical Service Hospitals)—Dr. Louis Eugene Jorel, Fairfield.

PENNSYLVANIA HOSPITAL, Philadelphia, Pa.—Dr. John Jennett Neal, Jr., Danville.

ST. LUKE'S HOSPITAL, Denver, Colo.—Dr. Walter Scott Chisholm, Jr., Charlottesville.

HENRY FORD HOSPITAL, Detroit, Mich.—Dr. Angus McDonald Green Crook, Jackson, Tenn.

ST. JOSEPHS HOSPITAL, Phoenix, Ariz.—Dr. Richard Clayton Dinmore, Honolulu, T.H.

CHARITY HOSPITAL OF LOUISIANA, New Orleans, La.—Dr. Robert Kent Dyer, Roanoke.

ST. VINCENT'S HOSPITAL, New York, N.Y.—Dr. Walker Marshall East, Clifton Forge.

LENOX HILL HOSPITAL, New York, N.Y.—Dr. Robert Daniel Gardner, Trenton, N. J.

ST. LUKE'S HOSPITAL, New York, N.Y.—Drs. Douglas Meriwether Griggs, Jr., Charlottesville; Robert Warner Wood, Jr., Charlottesville.

NEW YORK HOSPITAL, New York, N.Y.—Dr. Arthur Gardner Harden, Virginia Beach.

GENESEE HOSPITAL, Rochester, N.Y.—Dr. Carl Peter Kremer, Jr., Great Neck, N.Y.

DR. W. H. GROVES LATTER DAY SAINTS HOSPITAL, Salt Lake City, Utah—Dr. Morris Fine, Norfolk.

GEORGETOWN UNIVERSITY HOSPITAL, Washington, D. C.—Dr. John Happer Furr, Norfolk.

MADIGAN ARMY HOSPITAL, Tacoma, Wash. (U.S. Air Force Medical Services)—Dr. John Thomas Hearn, Jr., Fredericksburg.

VIRGINIA MASON HOSPITAL, Seattle, Wash.—Drs. Noble Thomason Macfarlane, Jr., Charlottesville; Philip M. Sprinkle, Martinsville.

KING COUNTY HOSPITAL SYSTEM, Seattle, Wash.—Dr. Pierre Brutsche Scott, Staunton.

U.S. NAVAL HOSPITAL, Bethesda, Md.—Dr. Jesse Robinson Hicks, Florence, S.C.

JOHNS HOPKINS HOSPITAL, Baltimore, Md.—Drs. Patsy R. Phelps, Charlottesville; John Vernon Torbert, Jr., Chesapeake; Robert William Trever, Arlington; Walter R. Whitehurst, Charlottesville.

UNIVERSITY HOSPITAL, Baltimore, Md.—Dr. Louis Max Sod, Norfolk.

PETER BENT BRIGHAM HOSPITAL, Boston, Mass.—Dr. John Shelton Horsley, III, Richmond.

MASSACHUSETTS MEMORIAL HOSPITALS, Boston, Mass.—Dr. Daniel Nathan Mohler, Charleston, W. Va.

TRIPLER GENERAL HOSPITAL, Honolulu, T.H. (Army Medical Service Hospitals)—Drs. Sheff

Daniel Olinger, Jr., Big Stone Gap; George S. Schools, Richmond.

Letterman General Hospital, San Francisco, Calif. (Army Medical Service Hospitals)—Dr. Frank Wilson Price, Delaplane.

Cedars of Lebanon Hospital, Los Angeles, Calif.—Dr. Malcolm K. Rosenbaum, Washington, Pa.

Hartford Hospital, Hartford, Conn.—Dr. Carnes Weeks, Jr., Woodbury, Conn.

Dr. Charles William Hurt, Culpeper, appointment not yet taken.

American Medical Association.

The meeting in New York City, June 1-5, was the largest ever held by the Association, with the final figures on attendance nearing 40,000. About 18,000 of these were physicians. Highlights of the opening day session were the addresses by Dr. Louis H. Bauer, who reported as retiring president; Dr. Edward J. McCormick who spoke as president-elect; Mrs. Oveta Culp Hobby, U.S. Secretary of Health, Education and Welfare, and the selection of the winner of the 1953 Distinguished Service Award. This award was voted to Dr. Alfred Blalock, professor of surgery at Johns Hopkins University School of Medicine, and chief surgeon at Johns Hopkins Hospital.

Dr. Walter B. Martin of Norfolk, Virginia, was named president-elect of the Association to become president in 1954, and Dr. Carl H. Gellenthien of Valmore, New Mexico was elected as vice-president. Dr. George F. Lull, Chicago, was re-elected secretary and general manager, and Dr. J. J. Moore, Chicago treasurer. Dr. Julian P. Price of Florence, S. C., was elected to fill Dr. Martin's unexpired term on the Board of Trustees.

Governor's Advisory Committee on Tuberculosis Control.

Governor Battle has appointed fifteen Virginians, physicians or medical authorities, "to serve in an advisory capacity to the State Board of Health and to make recommendations and suggestions as it deems appropriate" in the fight to eradicate tuberculosis. The Committee will organize and elect its own chairman upon call of Dr. Shanholtz, Health Commissioner. Members of the new committee are: Dr. John T. T. Hundley, Lynchburg; Dr. Andrew D. Hart, Charlottesville; Dr. Felix J. Brown, Richmond; Dr. Frank R. Trigg, Norfolk; Dr. George W. Oast, Portsmouth; Dr. E. C. Drash, Charlottesville; Dr. Edward S. Ray, Richmond; Col. Richard W. Copeland, director of Welfare and Institutions; R. N. Anderson of State Division of Vocational Education; Dr. L. R. Broome, superintendent of Hilltop Sanitarium, Danville; Dr. J. N. Dudley, commissioner of Health of Roanoke; Dr. S. W. Hughes, Jr., director of Grandy Sanatorium, Norfolk; Thomas Pinckney, Richmond, president of Virginia Tuberculosis Association; and Judge Lawrence Leland Tate, of Virginia Polytechnic Institute, Blacksburg.

The Virginia Surgical Society

Was formally organized at a luncheon meeting held on Saturday, May 23, 1953 at the Richmond Academy of Medicine Building. Officers were elected as follows:

President, Dr. Randolph Hoge, Richmond; Vice-President, Dr. Hugh Trout, Jr., Roanoke; Secretary, Dr. Robert L. Payne, Jr., Norfolk; Treasurer, Dr. William R. Hill, Richmond.

The following men were elected to the council: Dr. E. P. Lehman, Charlottesville; Dr. I. A. Bigger, Richmond; Dr. Edmund Horgan, Winchester; and Dr. R. P. Bell, Jr., Staunton.

The next meeting of the Society will be held during the time of the annual meeting of The Medical Society of Virginia.

National Advisory Committee to the Selective Service.

Arthur S. Flemming, Director of Defense Mobilization, advises that President Eisenhower has asked the members of the Health Resources Advisory Committee of the Office of Defense Mobilization who serve also as the National Advisory Committee to the Selective Service System to continue in their present capacities.

Initially, the Health Resources Advisory Committee was established in August 1950 to advise the National Security Resources Board on the health resources of the Nation as they relate to national defense, but in April, 1952, was transferred to ODM.

In his letter addressed to Dr. Howard A. Rusk, Committee Chairman, President Eisenhower said:

"The health of both our military services and our civilian population is fundamental both in peacetime and in the present emergency, and every effort must continue to be made to insure full utilization of both our civilian and military health resources."

Members of the Health Resources Advisory Committee are: Dr. Howard A. Rusk, New York, Chairman; Dr. Edwin L. Crosby, Chicago; Dr. Harold S. Diehl, Minneapolis; Dr. Alan Gregg, New York; Mrs. Ruth P. Kuehn, R.N., Pittsburgh; Dr. James C. Sargent, Milwaukee; Dr. Leo J. Schoeny, New Orleans; and Dr. William P. Shepard, San Francisco.

Members of the Virginia Advisory Committee to Selective Service are Dr. J. M. Emmett, Chairman, Clifton Forge; Dr. Harvey B. Haag, Richmond; Dr. Waverly R. Payne, Newport News; Dr. Mack I. Shanholtz, State Health Commissioner, Richmond; and Dr. W. Henry Street (Dental member), Richmond.

Virginia Pediatric Society.

The annual spring meeting of the Society was held at the Williamsburg Inn, Williamsburg, on March 6 and 7, under the presidency of Dr. Paul Hogg of Newport News. An excellent scientific program was presented and several new members were received. New officers elected at this time are: President, Dr. T. Stanley Meade, Richmond; vice-president, Dr. T. J. Humphries, Roanoke; secretary-treasurer, Dr. William Grossmann, Petersburg; and new members of the Executive Committee, Dr. Paul Hogg, Newport News, and Dr. E. L. Kendig, Richmond.

Dr. Beckwith to Be Associated with Dr. Wood.

Dr. Julian P. Beckwith who has for some time been head of the Medical Department of the Chesapeake and Ohio Hospital at Clifton Forge, moved to Charlottesville the first of July, where he will have offices at the University of Virginia Hospital and be associated in practice with Dr. J. Edwin Wood and be assistant professor of medicine.

Dr. Sutton Honored.

In tribute to his twenty-five years' service with the Pediatric Department of the Medical College of Virginia, Dr. Lee E. Sutton, Jr., was honored at a banquet on the evening of May 29 at the Commonwealth Club of Richmond. This was given by past and former members of his staff and he was presented a silver punchbowl appropriately engraved, Dr. Louise Galvin making the presentation. About eighty people attended this anniversary program honoring Dr. Sutton.

Pan-Pacific Surgical Association.

Doctors are urged to make arrangements as soon as possible to attend the Sixth Pan-Pacific Surgical Congress to be held in Honolulu, Hawaii, October 7-18, *1954*. An outstanding program, including sessions in all divisions of surgery and related fields, promises to be of interest to all doctors.

The Association office has been appointed as travel agent for those attending the Congress and it is important that all hotel and travel reservations be made through the Honolulu headquarters of the Pan-Pacific Surgical Association. For further information, please write to F. J. Pinkerton, M. D., Director General, Pan-Pacific Surgical Association, Suite 7, Young Hotel Building, Honolulu, Hawaii.

Dr. and Mrs. William Lawrence Gatewood,

Richmond, left the latter part of May for their summer home at Centerville, Cape Cod, Massachusetts, where they expect to remain until the end of September.

Special Medical Course.

The Special Training Division of the Oak Ridge Institute of Nuclear Studies has scheduled an advanced course covering the clinical applications of radioisotopes to be held from September 14-25, 1953. This advanced course, part of the continuing series offered by the Institute, is the second to be concerned with the medical uses of isotopes. The first was given in March, 1951. Participation will be limited essentially to those physicians who have had clinical experience with radioisotopes.

Information and application blanks may be obtained from the Special Training Division of the Institute, P. O. Box 117, Oak Ridge, Tennessee.

Dr. Candau to Be Director-General of the World Health Organization.

Dr. Fred L. Soper, Director of the Pan American Sanitary Bureau, Regional Office of the World Health Organization, announces the departure of Dr. M. G. Candau, Assistant-Director of the Bureau since March 1952. Dr. Candau was appointed Director-General of the World Health Organization by the Sixth World Health Assembly on May 11 in Geneva. He left Washington on May 30 for a vacation at home in Rio de Janeiro, Brazil, before taking up his new post with the WHO in Geneva, Switzerland, in July.

Grant Given by Eli Lilly and Company.

The University of Virginia received a grant recently from Eli Lilly and Company. This will support Dr. W. Parker Anslow, Jr., in his study of the mechanism of excretion of sulfur amino acids. Dr. Anslow is chairman of the Physiological Laboratory in the School of Medicine at the University of Virginia.

Dr. R. Bryan Grinnan, Jr.,

Of Norfolk, has been elected president-elect of the Virginia Heart Association and will take office next year.

Dr. Hundley Honored.

The degree of Doctor of Laws was conferred on Dr. John T. T. Hundley by Lynchburg College at its commencement exercises early in June. This honor was given Dr. Hundley, former president of The Medical Society of Virginia, for "leadership in his profession and his service to his community".

Dr. R. S. Griffith,

Waynesboro, has been cited by the Lee Lodge, No. 209, Ancient, Free and Accepted Masons, as the oldest Mason in the lodge in point of service and age. The retired physician became a Mason in 1891.

Borden's Work in Virginia.

A total of $422,854 was spent by The Borden Company in the Commonwealth of Virginia during 1952 for milk and other farm products, payrolls and taxes, according to an expenditure breakdown reported by the Company's Prescription Products Division. This is an increase of $43,984 over 1951.

Altogether, the Company spent $508,172,763 in the United States last year. This embraces activities in 47 of the 48 states, plus the District of Columbia, according to the Division which manufactures and distributes a well-known line of infant feeding formula products. The Company has 764 stockholders in Virginia.

Dr. B. C. Shuler

Of Shenandoah, who has been practicing in that section since 1903, was honored in May when the people of that community presented him with a 50-year plaque. He was guest of honor on that occasion at the dedication of the new Shenandoah Recreation Center, when he cut the ribbon opening a playground which had been built by civic groups and interested citizens.

Dr. Osterud Honored by College Staff.

Dr. H. L. Osterud, who has been teaching anatomy at the Medical College of Virginia for thirty-one years, retired in June and many former students and friends honored him during commencement with a reception and gifts to him and Mrs. Osterud. They also established a Osterud Prize in his honor to be awarded each year to a freshman medical student, beginning in 1954.

Dr. T. J. Tudor,

Norton, was badly hurt on June 7, when he was beaten over the head by an unknown man who came to his office on the pretext of receiving treatment for an injured foot. Dr. Tudor was moved to the local hospital for treatment.

Dr. Lehman to Retire.

Dr. Edwin P. Lehman announces his retirement in September after twenty-five years as a member of the University of Virginia School of Medicine staff. He has been chairman of the department of surgery and gynecology and senior member of the medical faculty. He is well known also for his work in cancer control and is a former president of the American Cancer Society. In 1948 for his work in this specialty he was given the J. Shelton Horsley Memorial Award.

Internist,

Aged 37, draft priority IV, graduate of the University of Virginia, with university hospital training and boards completed, would like to become associated with individual physician or group for practice. Address "Internist" care this journal, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

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OBITUARIES

Dr. Edgar Lee Lawrence

Of Roanoke, died in a local hospital on March 21 after a lingering illness of several months, following a fracture to the left hip which was sustained by a fall on the steps of his church when leaving the service. Dr. Lawrence was 84 and a native of Floyd County. He graduated from the Medical College of Virginia in 1900, after which he practiced medicine in Floyd, Virginia until coming here in 1919.

As a general practitioner, he enjoyed a large practice in Floyd and also in Roanoke after moving here. He was active in medical societies being a member of the American Medical Association, The Medical Society of Virginia, The Southwest Virginia Medical Society and the Roanoke Academy of Medicine. He was a member of the staff of the Shenandoah and The Memorial and Crippled Childrens Hospitals. He was a member of the Trinity Methodist Church and of several social and fraternal organizations.

Dr. Lawrence was held in high esteem by all who knew him. He lived a life of true responsibility to his profession and to his community. His life was typical of unselfish service characteristic of the general practitioner of his day.

The Roanoke Academy of Medicine feels that a true friend has gone from our midst, and extends genuine sympathy to the surviving members of his family.

GEORGE S. BOURNE
IRA H. HURT
J. D. WILLIS, *Chairman*

Dr. James Henderson Smith,

Widely known Richmond physician, died June 4 of a heart attack. He was seventy years of age and a graduate of the former University College of Medicine, Richmond, in 1910. For many years he served as senior member of the Medical Staff at St. Luke's Hospital, Richmond, was a former president of the Richmond Academy of Medicine, a member of many medical and civic organizations, and had been a member of The Medical Society of Virginia since 1910. He is survived by his wife, two daughters, two grandchildren and several brothers, one of them being Dr. Philip Smith of Abingdon.

Dr. Stephen Watts,

Retired professor of surgery at the University of Virginia, died at the hospital, June 7, aged seventy-five. He was graduated in medicine from Johns Hopkins University, Baltimore in 1901, and shortly thereafter located in Charlottesville. He was professor of surgery at University of Virginia from 1907 to 1928 when he retired. He was engaged in special medical work during both World Wars and was identified with many professional and civic organizations. His daughter and sister survive him, his wife having died last April.

Dr. Isaac S. Tractenberg,

Graduate of the Medical College of Virginia, Richmond, in 1913, died at his home in Lawrence, Long Island, N. Y., February 27, at the age of 66. He had practiced obstetrics and gynecology in Brooklyn for most of the time since he left Richmond, and was connected with Unity Hospital where he was vice-president and president-elect of the medical board.



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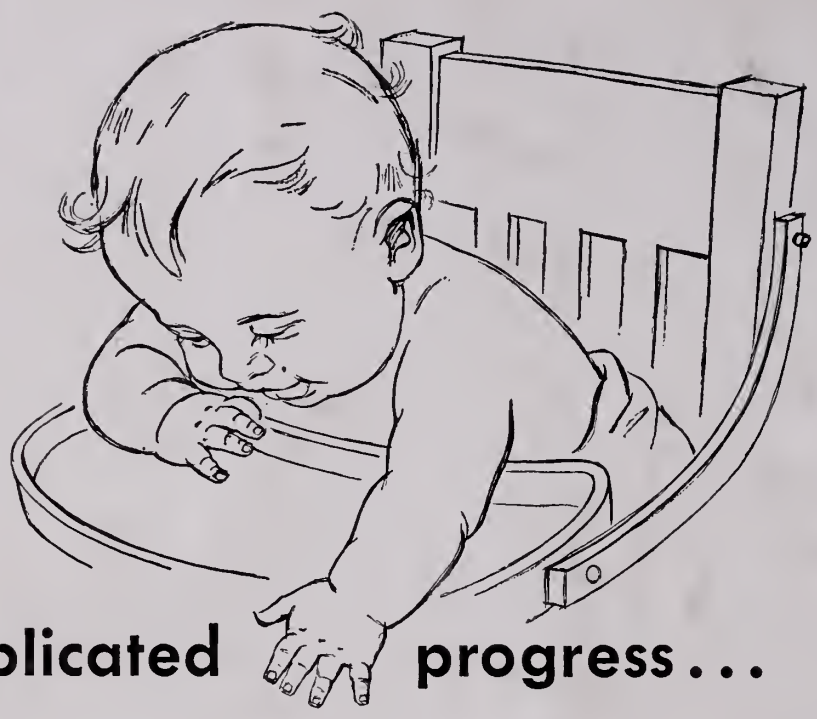
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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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VIRGINIA MEDICAL MONTHLY

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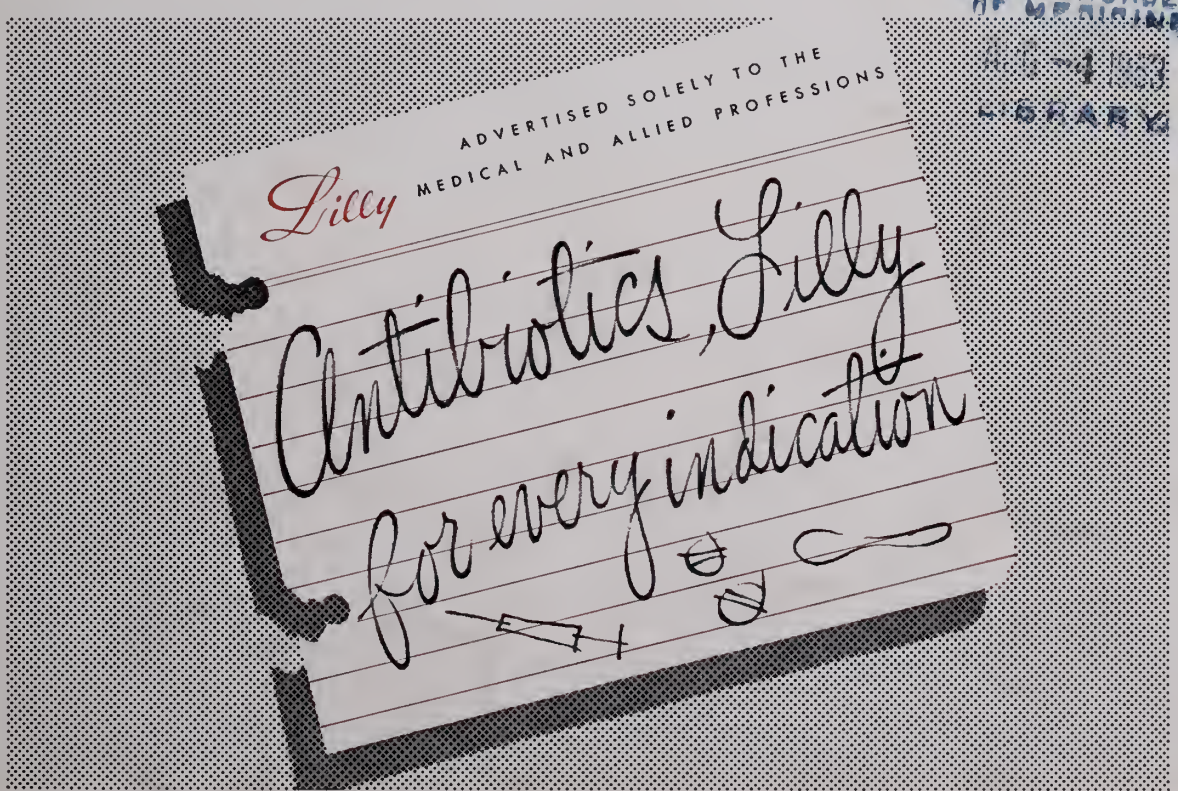
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GUEST EDITORIAL

Bacterial Allergy

BACTERIAL Allergy is one of the most important and, unfortunately, one of the least explored facets of medicine.

Bacterial Allergy is believed to play a major role in the morbidity of tuberculosis, the pathogenesis of rheumatic fever, and in infectious asthma. It is also thought to be an important factor in acute nephritis, brucellosis, rheumatoid arthritis, "Id" reactions, urticaria, angioneurotic edema, vasomotor rhinitis, iritis, uveitis, focal infections, and perhaps in pneumonia, meningitis and numerous other conditions.

Bacterial Allergy is more complex than the garden variety of atopic allergic reactions. Atopic reactions such as hay fever, asthma, and urticaria from foods, dusts and pollens are mediated by mechanisms which are perhaps better understood than those which cause hypertension, peptic ulcer, arteriosclerosis, lymphomata, and a host of other common important diseases. Bacterial Allergy has much broader implications. Allergic responses to bacteria not only take the form of atopic syndromes, but may occur just as typically as eczematous "Ids", acute anaphylaxis, or as delayed tuberculin-type reactions. Even these are relatively simple in concept when contrasted with the unknown mechanisms responsible for the pathogenesis of rheumatic fever.

In rheumatic fever, cause and effect seem well established. A great deal is known about the antigens of streptococci. M, P, X, T, and C proteins and polysaccharides; hyaluronic acid; the enzymes hyaluronidase and fibrinolysin; leucocidin; the hemolysins; the exo-, "lethal", and erythrogenic toxins; and proteinase have been identified and studied. A wide variety of antibodies, such as antistreptolysins, antifibrinolysin, agglutinins, precipitins, antitoxins, complement fixers, antiproteinases have been studied, to name the commoner ones. In spite of this wealth of material, the antigenic component of the streptococcus and the antibody which mediates the rheumatic fever reaction, assuming that one does, are complete mysteries. Until antigen and antibody are found the role of allergy must remain hypothetical. A promising lead is the strong experimental and clinical evidence that infection with more than one type of Group A hemolytic streptococcus is necessary to produce rheumatic fever.

Certainly the time element, the histological sequences, and antibody studies to date do not disclose any close relationship to the anaphylactic, tuberculin, "Id," serum, Arthus, or contact types of allergic reactions. The lesions in rheumatic fever resemble the focal reactions to large doses of globulin (Hawn and Janeway) more closely than any other type of antigen-antibody reaction. Cavelti's experimental rheumatic-fever-like lesions produced by homologous tissues plus streptococci as adjuvants looked promising at first. But, unfortunately, other investigators have not been able to reproduce them.

Infectious asthma is another clear-cut example of cause and effect. The patient develops a respiratory infection, then wheezes. Wheezing continues until, but stops promptly after, the infection is controlled. In spite of this close relationship, the mechanism by which infection causes asthma is not clearly understood. That an aller-

gic mechanism is responsible is strongly suggested by the frequent production of asthma by overdoses of and improvement from tolerated doses of bacterial antigens. But this does not prove the point nor does it even suggest what type of allergic reaction is involved. Is it Arthus, anaphylactic, tuberculin or other type of allergy? There is much clinical evidence to suggest that the tuberculin type of reaction is present commonly in infectious asthma.

Skin tests, as a means of identifying organisms responsible for asthma, have been disappointing, in spite of a high incidence of immediate wheal and flare reactions to crude polysaccharides and of delayed tuberculin-type responses to crude nucleo-proteins of bacteria. It is not surprising that man reacts to many bacterial extracts which are *not* giving him asthma when it is recalled that he is barraged with bacterial antigens from birth and that allergic skin reactions simply reflect immunological experiences. By the same token, a positive tuberculin test does not necessarily mean clinical tuberculosis, nor do positive reactions to egg or ragweed pollen necessarily mean clinical sensitivity to them. Positive skin tests are diagnostic leads, not positive diagnoses.

Allergic reactions are mediated by antigen-antibody-tissue reactions. A bacterium is a complex package of antigenic material capable of eliciting different antibodies and different types of tissue responses. While much is known, more is lacking in our knowledge of bacterial antigens. Our knowledge of allergic antibodies is also grossly deficient. Reagin which mediates atopic reactions, and precipitins which mediate Arthus and anaphylactic reactions have been studied extensively. In contrast, very little is known about the antibody which mediates the tuberculin type of bacterial allergic reaction, or the antibody component of the "Id" reaction. As mentioned already, nothing is known about the antibody concerned in the production of rheumatic fever.

Treatment of bacterial allergy is not standardized. Bacterial antigens cannot be avoided like eggs, wheat, cats, feathers. Antigen can often be removed by surgery or antibacterial agents, with relief of the symptoms of bacterial allergy. Treatment with bacterial antigens, while still empirical, is often but unpredictably effective.

What can be done about these and other important problems in bacterial allergy? Little can be expected until there is more interest, support, and dissemination of information about allergy. At present, there are in this country only a handful of allergy research laboratories and of full-time preclinical and clinical medical faculty members of professorial grades whose major interest is in the field of Allergy. Financial support of these limited facilities is tenuous. An important goal should be to make allergy sufficiently attractive to medical students, interns, and residents to stimulate the more intelligent and dedicated ones to pursue research in allergy as a career. For those who accept this challenge, hundreds of important problems of great variety and scope are literally begging for solution.

There are three hopeful signs on the horizon. One, the new Foundation for Allergic diseases will, it is hoped, raise enough money to support allergy research on a wide scale; two, the awakening interest in the field of allergy brought about by the great increase in allergic reactions to drugs; and three, the increasing emphasis on immunological mechanisms by the hematologists.

OSCAR SWINEFORD, JR., M.D.,
University of Virginia,
Charlottesville, Virginia

THE ABUSE OF BED REST IN THE THERAPY OF CARDIAC PATIENTS*

Norman F. Wyatt, M.D.,
Petersburg, Virginia
and
Julian R. Beckwith, M.D.,
and
J. Edwin Wood, Jr., M.D.,
Charlottesville, Virginia

In medicine, it is profitable to review periodically our present concepts of disease mechanisms and therapeutic approaches. In this manner, useless remnants of the past may be deleted and modern ideas may be integrated into a better formulation of pathological processes and methods of therapy. This discussion is concerned with a critical appraisal of the status of bed rest in the treatment of cardiac patients.

Historical Review

The use of bed rest in the therapy of patients with congestive heart failure or with myocardial infarction has been customary in the past. The primary objective envisioned in a program of bed rest for the cardiac patient is to provide a maximum amount of rest for the heart. Undoubtedly the prominence of bed rest in the physician's armamentarium stems largely from the fact that this has been considered an innocuous procedure. Indeed, until recently, relatively few physicians have stressed the penalties inherent in any program of prolonged strict rest. However, some authors have been so impressed with the hazards precipitated by such a regimen that the sound suggestion has been made that a physician must always consider bed rest as a highly unphysiologic and definitely hazardous form of therapy, to be ordered only for specific indications and discontinued as early as possible.[1]

It is of interest that exercise as a therapeutic adjunct in the treatment of cardiac patients antedates rest by many years. In 1854 William Stokes[2] advocated exercise as a form of treatment for fatty degeneration of the heart. Stokes allegedly also employed exercise in the treatment of aortic insufficiency, with the objective of obtaining greater hypertrophy of the left ventricular myocardium. Austin Flint advised exercise within the limits that could be borne without discomfort for all types of cardiac weakness, and he noted with poignant perspicacity that "patients exchanging habits of activity for complete rest are likely to become rapidly worse."[3] During the latter part of the 19th century, a method of graduated exercises, especially mountain climbing, for increasing the strength of the heart was quickly accepted in Europe. This was known as the Oertel method. Somewhat later the Neuheim form of treatment by baths and passive gymnastics was in vogue.

The first record of the introduction of rest into the therapy of cardiovascular disease may be found in "The Heart and Its Diseases," by Fothergill.[4] In this book the author states, "Perfect rest, especially in bed for a time, combined with proper remedies will give relief in every case of mere failure of the muscular structure of the heart and dilatation not complicated by valvular disease." A great stimulus to the advocacy of bed rest in the treatment of diseases of the heart came from Sibson's observations[5] that over twice as many patients with rheumatic infections subsequently developed severe heart lesions in the group not treated by bed rest compared to a group which had been at rest during their illness. Balfour,[6] of Edinburgh, is credited with being the first to recognize the importance of rest and to teach the importance of rest as therapy of cardiac disease. From his book, "Clinical Lectures on Diseases of the Heart," the following quotation is taken: "Whenever then from any cause there is defective, irregular, or in any respect uncomfortable action of the heart and, still more, whenever we have any uncompensated or imperfectly compensated valvular lesion, rest must be absolutely insisted upon as a necessary adjunct in the treatment and it must be maintained for a few days, or a few weeks until the heart acquires a certain amount of pristine vigor. In very many cases the mere act of getting out of bed and lying on a sofa for a few hours is too much for the patient

*From the Cardiovascular Division, Department of Internal Medicine, School of Medicine, University of Virginia, Charlottesville, Va.

and delays his recovery considerably, while any great exertion not infrequently thwarts all our endeavors to benefit the patient and in all events renders our treatment less safe and certain. We must never forget, therefore, to insist upon rest as a most important part of the treatment, a rest which must be the more perfect and complete the more serious the cardiac condition is." A distinguished disciple of this teaching of Balfour was Sir William Osler who was among the first to advocate the use of rest in the therapy of cardiac diseases in this country. Discussing the problem in 1920,[7] Pratt concluded that rest is beneficial because it increases the reserve force of the enfeebled heart. Since the writings of Pratt and the teachings of Osler in the first part of the 20th century, the pendulum has swung from the principle of exercise advocated by the early writers to the concept of absolute bed rest. This has been particularly true in the therapy of patients with myocardial infarction and has been true to a large extent in the management of patients with congestive failure. It must be said in defense of the great clinicians of the past that they were certainly accurate in their observations that cardiac patients responded better to rest than to strenuous exercise. Undoubtedly, the use of complete bed rest represented a significant therapeutic advance. However, these same observers, unfortunately, appeared satisfied with their therapeutic achievements and failed to ascertain whether there might be another regimen, still better, to be used in the care of these patients. It is noteworthy, however, that, to some astute observers, bed rest is not without danger, and over the past two decades various clinical discussions and medical writings have concerned themselves with the abuse of bed rest.

The Undesirable Sequelae of Prolonged, Complete Bed Rest

The evil sequelae of complete bed rest comprise such a formidable list that detailed documentation must be sacrificed for the sake of brevity. One may conveniently divide these undesirable side-effects into two categories, one affecting the circulatory system and the other affecting the remaining systems of the body.

Disadvantages of Prolonged Bed Rest on Systems Other Than the Circulatory

Bone atrophy and muscular wasting have been previously described. The second factor undoubtedly contributes to the subjective complaint of weakness almost invariably noted in any patient subjected to the unphysiologic procedure of bed rest. Constipation and cathartic habituation are extremely common complications thrust upon the patient forced to assume the unnatural posture of prolonged recumbence. This habit may be extremely resistant to change. Symptoms of urinary obstruction may also appear for the first time, particularly in elderly male patients confined to bed. The best known complication of bed rest, of course, is the decubitus ulcer. This may represent not only a demoralizing incident to the patient but an incident which may entail serious consequences.

Disadvantages of Prolonged, Complete Bed Rest on the Circulatory System

Vasomotor instability consequent upon prolonged bed rest also contributes to the difficulties of the patient so treated. This symptom may be a trying one for the patient. All physicians are familiar with the complaint of vertigo, weakness, and even syncope when the patient who has been confined to bed rest for long periods of time first assumes a sitting or standing position. Indeed, this complaint may be present for an annoying length of time, contributing to the patient's asthenia, and undoubtedly it is a potent factor in the production of cardiac neuroses. Many authors have remarked in the past about the inception of pulmonary edema, which may appear for the first time when a cardiac patient is put at bed rest. One of the most serious penalties of bed rest, of course, is the tendency on the part of the patient so treated to develop venous thromboses and pulmonary emboli. In the following discussion, this and other considerations mentioned above will be discussed in more detail.

Bed Rest as an Unphysiologic Therapeutic Approach to Congestive Failure

The concept that bed rest with the patient in the recumbent position offers the heart the maximum amount of rest has been shown to be incorrect. McMichael and Sharpey-Schafer[8] noted that in a normal, resting, recumbent adult, the output of the heart may be 5.3 liters per minute, falling to 4 liters per minute on quiet standing. Certainly one of the determinants of increased cardiac output in the normal heart in recumbency is increased venous return from the periphery with increased diastolic filling.

The left ventricle in the normal heart can easily cope with this added load; therefore, no adverse effects result.

However, the failing ventricle may not have enough reserve to meet the added challenge. When this set of events occurs, pulmonary congestion results. Indeed, Perera[9] demonstrated that in patients with hypertensive heart failure kept recumbent for 12-24 hours, increased blood volume, hemo-dilution, increased venous pressure, and a decreased vital capacity of the lungs developed. It is obvious in these patients that left ventricular function is inadequate. Obviously, the physician wishes to avoid any procedure which may represent an additional burden superimposed upon an already over-burdened circulation.

As Levine has aptly commented,[10] the harmful effects of recumbency on patients with congestive failure are masked by the other procedures which are instituted simultaneously, such as digitalization, prescription of a low salt diet, and the use of diuretics. It should be emphasized at this point that although many cardiac patients treated with bed rest are placed in a position so that the head and shoulders are elevated, the hips are more or less on a level with the feet. This is not so effective a method of controlling venous return as when the patient places the lower extremities in a dependent position, as sitting. However, the harmful effects of recumbency in the treatment of congestive failure need not be inferred exclusively from experimental evidence. Ample clinical observations have eloquently attested to this in the past. For years the patient suffering from congestive failure has known that bed is often the one place in which he is the least comfortable. In bed he experiences orthopnea and in bed he has paroxysmal nocturnal dyspnea. Yet the medical profession has adhered to the use of bed rest in the therapy of many of these patients. With the passage of time, a partial concession has been made to the patient's comfort by elevating the head of the bed. However, for reasons mentioned above, this compromise has not been as effective as treating the patient out of bed in a chair. Recognizing this fact, eminent cardiologists threw off the shackles of tradition and instituted the chair treatment for patients with congestive failure. The results have been encouraging. When formerly it was not uncommon to see a cardiac patient who was put to bed re-distribute his edema from the dependent portions of the body to the lungs, the reverse procedure has been repeatedly demonstrated in those taken from bed and placed in a chair. Edema formation in the legs is relatively benign, but edema formation in the lungs can be fatal.

From the foregoing remarks it seems obvious that bed is the worst place for patients either with congestive failure or with threatened congestive failure. This observation applies equally forcibly to patients with acute myocardial infarction and congestive failure.

The Tendency to Thromboembolism in Bed-Treated Cardiac Patients

An additional set of circumstances further emphasizes the danger of too much bed rest in these patients. The proclivity of the cardiac treated on bed rest to develop evidences of thromboembolism is a distressing and frequent occurrence. The observations of Williams and Rainey[11] concerning the chief cause of death in patients with congestive failure underscore the appalling frequency of a fatal pulmonary infarction and embolism. In one group of patients observed over five years, the incidence was approximately 20% and in a group observed over a subsequent five-year period the incidence was approximately 15%. The incidence of thromboembolic phenomena as supplementary causes of death was even higher. It should be remembered that these patients were treated with bed rest.

As Harrison[12] pointed out in his discussion on the abuse of bed rest in patients with cardiovascular disease, studies were attempted at the Vanderbilt University Hospital and later in the North Carolina Baptist Hospital to assay quantitatively the difference in pulmonary infarction and embolism between bed-treated cardiac patients and those permitted to be up. Because of the many variables present, it seemed unwise to draw conclusions from these data. The only conclusion which was drawn was that those patients who were out of bed were happier.

Physicians in the past have been impressed with the fact that the incidence of thromboses and emboli in the ambulant cardiac patient is much lower than in those confined to bed rest, and a prominent cardiologist[16] has expressed the view that even as simple a procedure as getting the patient out of bed into a chair may be responsible for reducing the incidence of thromboembolism. Certainly it has

been our impression that the incidence of thromboembolism in those patients gotten out of bed is lower than seen formerly when bed rest was uniformly enforced. Convincing data may be forthcoming on this question in the future. It seems logical to assume that slowing of the circulation of the venous system when the patient is at bed rest, as well as the pressure exerted in the recumbent position upon the deep veins of the calf and thigh, are as ideal a set of conditions for the production of thromboses as could be conceived.

Thromboembolism is a serious complication during the course of myocardial infarction. The figures of the Committee for the Evaluation of Anticoagulants in the Treatment of Coronary Thrombosis with Myocardial Infarction, presented in 1948,[13] revealed 14 thromboembolic complications per 100 patients, occurring in the group treated with dicumarol. If those incidences of thromboembolism occurring in patients not theoretically under good anti-coagulant therapy are omitted, there still remain six incidences of thromboembolic complications per 100 patients occurring when the patient was under adequate anticoagulant therapy. It should be noted that these patients were all treated in the conventional manner with bed rest. The fact that six of 100 patients developed these serious complications of their original illness indicates that anticoagulants are certainly not the only answer to the problem of thromboembolism.

It is of interest that certain changes in the blood composition occurring after bed rest have been described. Waugh and Reddick[14] demonstrated that after bed rest blood thromboplastin is increased. This finding is suggestive, in view of deTakats'[15] observation of an abnormal heparin tolerance in acute thrombosis and after toxic doses of digitalis. The role of digitalis, however, in accelerating the clotting mechanism of the blood is under considerable dispute. Although the observations of deTakats and Waugh are of interest at the present, changes in the constituents of the blood which they describe bear an uncertain relation to the etiology of thromboses and thromboembolism.

It must be admitted that no figures are available as yet to attest definitely that patients with congestive failure treated out of bed in a chair have a lower incidence of thromboembolism. The same observation applies to patients with myocardial infarction. Nevertheless, from a consideration of all of the observations which have been made in the past, we believe it likely that the arm-chair method of therapy may well result in a decreased incidence of thromboembolism.

Undesirable Psychic Reactions to Prolonged Bed Rest

One of the most damaging penalties assessed the cardiac patient for his adherence to a regime of prolonged bed rest is weakness, and, as already mentioned, the weakness may have an organic origin, in part. One need only inspect the musculature of the limb immobilized in plaster for long periods of time to appreciate the degree to which muscular wasting may occur. Obviously, in the cardiac treated with bed rest, this muscular weakness is more generalized and usually not so obvious as in the incidence of the immobilized limb. Undoubtedly vasomotor instability contributes to the feeling of asthenia. The occurrence of weakness *per se* is not so damaging a blow to the patient, for this in itself may be remedied. The chief damage done to the patient by the symptoms of weakness and vasomotor instability lies in the potential translation of these symptoms into a full-blown cardiac neurosis. The seeds of cardiac neuroses are first disseminated by the attending physician who places the patient at complete, absolute bed rest. In spite of all manner of cajoling and reassurance by the physician, the patient is frightened, and well he may experience this emotion when he senses the gravity of his affliction following such strenuous measures. In incidences of myocardial infarction, he is warned against moving his arms, turning even slightly in bed, or making any motion whatsoever. If any measure were diabolically calculated to instill terror, frustration, and a sense of hopeless invalidism, it could scarcely be more effective than such instructions to a patient ill with congestive failure or myocardial infarction. If there were no other condemnation of absolute bed rest in the treatment of cardiac patients than this one, the physician would do well to heed its instruction. Cardiac neuroses should be prevented, not fostered. Prevention is relatively easy; therapy may be extremely difficult.

Arm-Chair Therapy for Patients with Acute Myocardial Infarction

The entire credit for instituting the arm-chair method of therapy for patients with myocardial infarction belongs to Dr. Samuel A. Levine,[16] of Bos-

ton. Although others had tentatively envisioned the idea, it was he who saw the real value in this method and translated it into a significant therapeutic advance in the treatment of patients with acute myocardial infarction. In brief, the arm-chair method of therapy consists of allowing the patient to spend his time during his convalescent period in a comfortable chair rather than in the recumbent position in bed. On the first or second day, unless the specific contraindications listed below occur, the patient is assisted from bed and placed in a chair so that the patient's feet rest comfortably upon the floor. This does not imply that ambulation is permitted. The increased work load of the left ventricle incurred by ambulation is highly undesirable in the early stage of convalescence. It may be noted here that, although an occasional patient will disregard instructions, the majority are so grateful for the opportunity of sitting up that cooperation between physician and patient is usually maximal. From the details of the previous remarks, it is obvious that the therapeutic aim of placing the patient in a physiologic position is to provide a maximum amount of rest for the injured myocardium. In the absence of contraindications, chair treatment is begun within the first few day of the illness. It has been our custom here to allow the patient to sit up 15-30 minutes two or three times a day on the first day of the institution of the arm-chair treatment, and to double the length of time the patient spends in the upright position on succeeding days until he is sitting up six to eight hours a day. This program obviously must be modified somewhat for individual cases. At the onset, if the patient tires, he is permitted to return to bed at his discretion. Obviously, he is assisted back into bed.

Contraindications to the Use of the Arm-chair Program

The only absolute contraindication to getting the patient up is the presence of shock. However, as soon as this phase of the convalescence ceases to exist, he is allowed to sit in a chair. A relative contraindication to this form of therapy is the presence of extreme debility with inability on the part of the patient to sit up because of weakness. It should be emphasized that only if the patient is physically unable to sit up does this contraindication become absolute rather than relative. In fact, many patients experience weakness in the beginning of their illness, but the weakness responds more promptly to rest in a physiologic rather than an unphysiologic position. The presence of a fresh deep vein thrombus is a contraindication to this form of therapy until the patient has been on anticoagulants a few days.

The Advantages of the Arm-chair Method

Some misunderstanding has arisen concerning one contraindication to the arm-chair therapy. The opinion has been expressed that very sick patients, including those with pulmonary edema, congestive failure, or significant elevations of temperature, are not permitted to follow this program until such time as their general condition improves. This is an erroneous concept. Excepting those patients in shock, those with such disability that physically they cannot sit up, and those with a fresh deep skin thrombus, the sickest patients often derive the greatest benefit from the chair. Such an example is the patient with myocardial infarction admittedly in congestive failure, pulmonary edema, and cyanosis who appears to be extremely ill. In such patients, one of the maximum benefits of the program is achieved in that one often observes the clearing of pulmonary edema and clearing or partial clearing of congestive failure with the patient assuming the sitting position. A second very apparent benefit resulting from this program is improvement of mental outlook. Only those who have treated patients with myocardial infarction both by the conventional method of bed rest and by the arm-chair treatment can appreciate the magnitude of this improvement. Almost immediately the patient adopts a more optimistic attitude. Instead of lying in bed dreading the consequences of his illness and fearing that the slightest possible movement will precipitate disastrous results, the patient allowed to convalesce in a chair experiences hope rather than despair, optimism rather than profound depression. From this turn of events he perceives that the physician himself is hopeful of his recovery. It may be reiterated that, all things being equal, were no other benefits derived from the arm-chair therapy of myocardial infarction than this, this factor alone would establish the validity of the regime. On increasingly frequent occasions the physician has had the illuminating experience of observing a patient who has been treated by the conventional method and by the arm-chair method for myocardial infarction on two

different occasions. These patients often volunteer their preference for the newer form of therapy, often voluntarily contrasting the fear, depression, and desperation of the older program to the hope and increased sense of well-being engendered by the newer approach.

The mortality rate in the first group of patients reported by Levine[16] treated by the arm-chair method was actually lower than that of the dicumarolized bed-treated patients reported by the Committee for the Evaluation of Anticoagulants.[13] The series is too small as yet to justify any conclusions other than the fact that treatment in the arm-chair does not seem to add to the mortality of patients suffering from myocardial infarction. The question of relative mortality attendant upon both methods of therapy can be answered best by a large series of patients treated alternately. From such a series, any effects of the arm-chair regime in lowering the incidence of thromboembolism may be demonstrated.

Discussion

In this discussion we have attempted to outline briefly the history of the use of bed rest in the therapy of patients with cardiac disease. Although the use of strenuous exercise in the treatment of patients with various cardiac disorders is unthinkable to us today, it is becoming increasingly evident that the opposite approach of absolute bed rest is not without hazard. Undoubtedly the pendulum swung towards the extreme of absolute bed rest because of the radical and unphysiological use of exercise in patients who could ill afford such strenuous demands upon their myocardium. The pendulum was swung away from exercise, also, because of Sibson's observations of the apparent benefit of bed rest in preventing rheumatic heart disease. It is unfortunate that the apparent benefit accruing to this group of patients should be inferentially applied to those cardiac patients suffering from quite different disorders such as congestive heart failure or acute myocardial infarction. Indeed, it is well to recall that in spite of Sibson's observations and the observations of others, the validity of bed rest in actually preventing subsequent rheumatic valvular deformity is questionable. A third propelling force in the direction of bed rest was the frequent clinical observation that patients with congestive failure who became relatively inactive tended to become better compensated. The teachings of Fothergill and Balfour did much to further this cause abroad, as did the teachings of Osler and Pratt in this country. However, as so frequently happens, the therapeutic shift went too far and complete bed rest became an established procedure in the handling of patients with congestive failure and with myocardial infarction. A more rational approach is to have the patient out of bed in a chair in both instances. The benefits of the upright position in decreasing venous return and decreasing pulmonary congestion have already been discussed. It is to be hoped, and, indeed, we expect, that patients treated in a sitting position will develop fewer thromboembolic phenomena because of decreased sluggishness of peripheral venous flow and periods of freedom from pressure on the deep veins of the thigh and calf. One can hardly over-emphasize the advantage to the patient's morale when he is allowed out of bed.

For the above reasons, we feel that all cases of congestive failure should be treated out of bed in a chair unless the patient is so desperately ill that he cannot sit up, unless a recent deep vein thrombosis is present, or unless, of course, he is in shock. The same considerations apply to the patient with myocardial infarction.

Conclusions

1. The history of the use of exercise and of the opposite concept, complete bed rest, in the therapy of cardiac patients is briefly reviewed.

2. Although the acceptance of complete bed rest in the therapy of patients with congestive failure and myocardial infarction represented a significant therapeutic advance over the older regimen of strenuous exercise, complete bed rest is an unphysiologic approach not without danger.

3. The undesirable sequelae of complete bed rest on the circulatory system, the psyche, and other systems of the body are outlined.

4. The "arm-chair" treatment for patients with acute myocardial infarction is presented as a significant advance. This program was first described by Drs. S. A. Levine. "Arm-chair" therapy for patients suffering from severe congestive failure likewise represents an improvement in the management of this condition.

5. The contraindications to the use of the "arm-chair" regimen are outlined.

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Hold the Phone; 'Dr. Jerkheimer' Calling

Ever answer your phone only to find another doctor's secretary on the other end, asking you to wait a minute, please? You may be busy with a patient, but you're compelled to drop everything and wait until your colleague is ready to talk to you. Dr. Max Thebaut of Oakland, Calif., has a name for such a boor: he calls him "Dr. Jerkheimer."

Dr. Jerkheimer has an inexhaustible "bag of tricks," according to Thebaut. Take, for instance, one "cutie" which is even "more subtle in its discourtesy":

When another doctor calls *him,* Jerkheimer makes the caller "wait an interminable length of time." Then, when Jerkheimer finally picks up the receiver, he "doesn't say 'Hello.' Instead, he places his mouth close enough to it so that his colleague can hear the final phases of a conversation he is having with someone in his office."

Concludes Dr. Thebaut, writing in a recent Bulletin of the Alameda-Contra Costa Medical Association: "Why, oh why, Mr. Anthony, don't some people realize that others might be busy, too? . . . All I can say is, I hope certain people I know read this and mend their ways. My coronaries aren't as resilient as they used to be."

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THE DIAGNOSIS AND TREATMENT OF INTESTINAL OBSTRUCTION*

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The diagnosis of obstruction of the bowel is usually made without difficulty in late cases, but may be very uncertain in the early stages. The dehydrated patient with abdominal distention, visible and palpable coils of bowel, nausea and vomiting and suffering severe abdominal cramps presents no problem, but soon after onset it is frequently very hard to decide whether or not there is a real blockage of the bowel. In patients convalescent from a recent abdominal operation, distention and abdominal pain may be due to a mechanical blockage of the bowel or to varying degrees of paralytic ileus and it is often difficult to differentiate them.

There are many causes of obstruction of both the small and large bowel. External hernias are usually obvious but one must be careful to avoid missing a small strangulated femoral hernia in a fat female, particularly when they are elderly and object to a thorough physical examination. A single stout band of adhesion from a previous operation probably is the most frequent intra-abdominal cause of obstruction of the small bowel and the operation may have been done many years before. Rarely congenital bands and internal hernias block the bowel. Mesenteric thrombosis may cause necrosis of the bowel and this prevents passage of its contents. Volvulus of a distended loop may cause obstruction in both small and large bowel. Diverticula inflamed and/or adherent may block any part of the intestinal tract, as may chronic nonspecific granulomas.

In the lumen of small bowel foreign bodies such as a large gall stone, bezoars and solid objects swallowed may obstruct. In both small and large bowel tumors may constrict or close the lumen. A rare lesion that should be remembered is the small bowel polyp in children which may cause intussusception. This polyp is frequently familial, it is apt to bleed slowly so it should be thought of when a child presents an obscure anaemia and a history of attacks of cramplike abdominal pain. All intestinal polyps are frequently multiple, so that, if one is found, we should search for others. Other forms of intussusception may involve either small or large bowel.

The congenital abnormalities in the newborn must be omitted in this discussion.

Complete obstruction of any part of the intestinal tract leads to early serious changes in the chemical constituents of the blood stream, and this in turn to marked disturbance of the body circulation. If not corrected, these changes cause a reduction in the blood volume, a lowering of blood pressure, and, if continued, a state of shock impends or is established. This shock after a while becomes irreversible and death results. There has been much research on the question of a toxin in the intestinal tract which, being absorbed, causes these dire results. It seems now, however, in light of a better understanding of blood chemistry, that these changes rather than any poison is the cause of the circulatory deterioration.

The loss of inorganic salts, proteins, and fluids from the blood stream results primarily from disturbance in the blood circulation in the bowel wall and, secondarily, by the loss of gastric contents through vomiting. The first is the more important. Johnston has beautifully demonstrated the circulation in the wall of the bowel and has shown a marked diminution in this circulation as a result of moderate distention. With the increase of intraluminal pressure the thin walled and poorly protected veins are compressed or entirely closed so that an outpouring of the fluid, soluble elements and even cells of the blood occurs into the lumen of the bowel. (Fig. 1). This increases the intraluminal pressure and the vicious circle goes on to great distention, backing up of intestinal contents to the stomach and vomiting of foul material; untreated, this may lead to necrosis of the bowel and spontaneous rupture. The vomiting is, of course, important but the bulk of the vital fluid, salts and protein are lost from the circulation into the bowel before the vomiting occurs.

It is, therefore, essential to diagnose bowel obstruction early and to correct the chemical changes

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in the blood stream and to remove the cause of the obstruction before the patient has deteriorated into a state of irreversible shock.



Fig. 1.—This diagram illustrates changes in the circulation of the bowel wall—above normal bowel, below moderately distended bowel.

The picture of early obstruction is of the greatest interest because the late ones are usually obvious. In general, the higher in the tract the obstruction occurs the more violent are the early symptoms. This is best explained on a purely mechanical basis in that there is more room when the bowel is obstructed low down, for the large volume of bile, pancreatic and intestinal juices to accumulate before causing severe pain and vomiting. It should be remembered that abdominal pain is almost always caused by distention of viscera rather than irritation of the visceral peritoneum. The patient then complains of intermittent cramp-like pains which result from increased tension as the waves of peristalsis move the bowel contents into the obstructed loops. A careful history frequently suggests the location and character of the obstruction; the significant points in the history are too well known to be repeated here.

The abdomen should be thoroughly exposed for examination. Inspection may reveal an external hernia, general or partially localized distention, and even a distended loop of bowel in thin individuals. Palpation should begin in the groin and then extend carefully over the entire abdomen. Percussion should outline the liver usually excluding free air in the cavity, the size of the stomach is suggested and the fluid or gaseous character of the distention. Auscultation is important in determining the character of the peristaltic sounds, hyperactivity is suggestive of blockage, and the high pitched tinkling note occurs most frequently in an obstructed loop. The physical examination should note the presence of scars not only on the abdomen but also on the chest wall because occasionally a small chest scar may lead to the diagnosis of a post-traumatic diaphragmatic hernia as the cause of the obstruction. Pelvic examination in women and rectal examination on all patients should be made (Fig. 2). The rectal examination may reveal a tumor. It will always give a good idea of the content or emptiness of this segment of bowel.



Fig. 2.—Roentgenogram showing large calcified fibroid tumor; this caused the typical pattern of obstructed small bowel.

The general examination of the patient will give much useful information. The appearance of the skin and mucous membranes will give very positive evidence of the hydration of the patient, particularly the almost forgotten physical sign, the appearance of the tongue.

The laboratory is an indispensable aid. The concentration of the urine, presence or absence of al-

bumin and casts is suggestive of the renal function. The level in the blood of sodium chloride, urea or non-protein nitrogen, and CO_2 combining power may be a diagnostic aid because frequently the salt depletion and the nitrogen retention are noted very early. Further study of the sodium, potassium, calcium, chloride, albumin and globulin contents are helpful in treatment.

The result of an ordinary enema when carefully observed, especially as to passage of gas, is an aid to diagnosis.

Finally, x-ray examination of the abdomen is made. It is wise to empty the stomach before x-ray examination; we prefer the Levine tube as a rule though in some cases a Miller-Abbott or Harris type of intestinal tube is used (Fig. 3). Barium in the



Fig. 3.—This roentgenogram shows great distention of small bowel and an intestinal tube coiled in the stomach.

usual quantity should never be given by mouth; occasionally in doubtful cases which are not urgent a small amount of barium by mouth may aid the diagnosis. From the x-ray film taken in the dorsal decubitus and upright positions much useful information is obtained. Even in early cases there is frequently conclusive evidence of obstruction, as indicated by a distended loop or loops of bowel and fluid levels on the upright film. There is usually good evidence as to whether the obstruction is in the large or small bowel and some indication of the level of the lesion. When the large bowel is involved a barium enema can usually be safely given; this definitely locates the obstruction and gives a good idea of how complete it is. The x-ray appearance of the abdomen in early cases is often not conclusive and it must be regarded as only one factor in reaching a diagnosis.

We have now completed the diagnostic procedures and, having decided that obstruction is present, must decide whether or not it is complicated by strangulation of the bowel. In some cases this is not difficult; for instance, in recent postoperative patients strangulation rarely occurs; these patients have been under observation of the surgeon and curative measures have probably been carried out from the first indications of trouble. Most lesions of the colon are simply obstructing; the exceptions are volvulus and intussusception.

The ones that give the most serious concern are obstructions of the small bowel. I must confess that I lack confidence in my diagnostic acumen to distinguish between simple obstruction and strangulation. Of course, great pain, marked localized tenderness, fever, and leukocytosis indicate strangulation, but, unless the evidence is very strong, as indicated before, relative to recent postoperative distention and colon tumors, it is safer to assume that strangulation is also present.

While the diagnostic procedures are under way, the restorative measures are begun. The stomach is emptied by suction, intravenous fluid is given usually 5% glucose in normal saline or Ringer's solution, preparation made for transfusion of blood, pain relieved by proper parenteral medication, and any other general treatment that seems indicated is begun. If the blood sodium chloride level is very low it can be restored more promptly by hypertonic salt solutions up to 5%.

We do not subscribe to long periods of preoperative preparation even when the patient is approaching the state of shock. It is obvious that all possible measures should be taken to restore the circulation that are consistent with the time available, but we must realize that bowel obstruction with or without strangulation initiates a vicious circle and is an emergency condition.

Intestinal intubation will without doubt relieve

some nonstrangulation obstructions of the small bowel and we have seen a few patients saved by these tubes; on the other hand, our luck in passing them promptly into the intestine has not been good and repeated trips to the x-ray room to check their position are certainly not good for a seriously ill patient. We do not use them except in very carefully selected patients.

In almost all cases we believe that operation is the treatment of choice. Prolonged effort to restore a seriously ill obstructed patient is somewhat similar to efforts to restore one having severe intra-abdominal bleeding from trauma and I am sure that many of us have seen the former go into irreversible shock and the latter exsanguinated during the period of attempted resuscitation.

The type of anaesthesia used depends on the existing conditions. Local anaesthesia is ideal when adequate; it can be used for external hernia, enterostomy, cecostomy and colostomy when indicated. For lesions that require exploration, adequate abdominal incisions must be made and relaxation must be had by general or spinal anaesthesia.

For strangulated inguinal and femoral hernia we use the abdominal approach described by LaRoque. Through the opening above the internal ring and the opened sac, the bowel can more safely be reduced and when of dubious vitality it can be placed into the cavity where it will have a better chance of restoration and can be brought back up for inspection. Lesions of the small bowel are dealt with as indicated. Again, we must consider the circulation in the wall of the bowel above the obstruction. When it is good, as indicated by good color and active peristalsis, there is no problem. When it is greatly distended and has poor color it should be emptied by suction. This maneuver will also greatly facilitate the exploration and correction of the lesion. We believe that this is a life saving measure in advanced cases by restoring the circulation and thereby the viability and the function of the bowel, particularly the muscles. The objections which have been made against this procedure are danger of soiling, trauma of handling the bowel and rapid absorption of toxic substance when the circulation is restored. None of them are valid. There is little or no soiling and if there is some spil'age it is of no consequence. All of us have seen gross insults to the peritoneum that caused no trouble. It is the continuous flow of infectious material that causes peritonitis as from a ruptured viscus, and not one of immediate exposure. The trauma from handling the bowel is more than offset by its restoration when empty. We do not believe there is a toxin in the lumen but there may be an actual slough of mucous membrane and infection in the bowel wall; this can only be improved when the blood supply returns to normal.

The use of suction is very simple; a loop of bowel is gently emptied by finger pressure and so controlled; clamps or other pressure devices should never be used because the bowel is in poor condition and may be destroyed by such pressure. A purse string suture is placed, the bowel opened and an ordinary sump-type suction tip inserted (Fig 4).

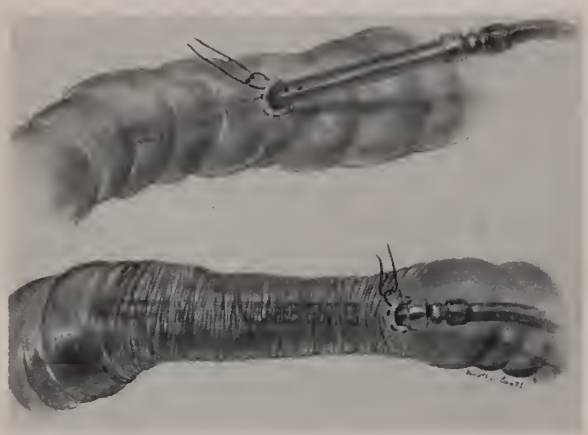


Fig. 4.—The method of introducing the suction tip into the distended bowel and of threading the collapsed bowel.

The suture is tightened around the tube and low pressure suction started. As the bowel empties it is threaded on to the tube. In this manner we can empty a foot of bowel for each inch of the suction tube. When it is full of bowel other distended loops are gently lifted and their contents guided toward the suction. If necessary the direction of the suction can be reversed to empty more loops and if the distention is extreme another opening can be used. When the bowel is so distended as to need suction evacuation it is wise to establish an enterostomy; this is done through the opening already made, usually by the Witzel method. It is interesting to note that this procedure was advocated by Nicolas Senn in the "Gay Nineties."

No rules can be made to guide the operator to the decision of the viability of a damaged loop of bowel. The color, the appearance of the mesenteric vessels, the presence or absence of peristalsis,

the improvement or unchanged condition after release, and the good judgment of the operator must lead to the decision. When there is doubt and the condition of the patient is reasonably good, it is safer to resect. We almost always do an end to end anastomosis with open suture, and even though the distention is moderate the content of the proximal bowel is removed by suction through the opened end.

The colon can present many problems. If the obstruction is not complete, spontaneous decompression may result from rest, mild purgation and irrigation. When the distention of the proximal colon is moderate yet not satisfactory for immediate suture, the obstructive type of operation described by Rankin and Graham can be used safely. If the obstructing lesion is in the right colon and the ileocecal valve competent so that there is slight distention of the ileum a complete resection with immediate ileocolostomy can be done. Again the proximal bowel is emptied by suction. In the presence of infection of the bowel with either tumor or diverticulitis, immediate anastomosis should never be done. We have found that such lesions usually occur in the sigmoid so that the colon is divided at the proper proximal level and brought through the abdominal wall as an inguinal colostomy. Depending on the degree of infection the lesion may be definitely removed and the distal end closed or the lesion left in place and the distal bowel brought through the lower angle of the wound. At a later operation the anastomosis or resection is completed.

When the obstruction is complete and the distention great, the bowel must be decompressed by proximal cecostomy or colostomy according to the location of the obstructing lesion.

Volvulus of a redundant, mobile, and dilated sigmoid colon may cause complete obstruction and strangulation of the bowel. In mild cases detorsion by enema and manipulation may be successful; if not, immediate resection and anastomosis may be done. In the more markedly dilated bowel detorsion by operation and deflation by rectal tube will relieve the immediate condition and resection can be done later. When the bowel wall has been damaged by strangulation the dilated sigmoid should be resected by the obstructive type of operation or by making a colostomy of the proximal end and closing the distal end with later operation to reestablish continuity of the bowel. A series of such cases was reported by Bosher and Shelton from the Medical College of Virginia Hospital.

During the diagnostic and operative periods the patient has received fluids with glucose and salts and measures have been taken to deflate the intestinal tract. Blood transfusion has probably also been done. These methods of therapy should be continued. The amount of fluid given is usually about 3,000 cc. in 24 hours; in elderly patients it is given cautiously and often the subcutaneous route is used instead of the intravenous. The old-fashioned idea that a quart of urine excreted a day indicates adequate hydration is a sound one, and can usually be safely followed. Blood chemistries are checked, as indicated, and the proper salts added to the fluid. We rarely use the aminoacid products intravenously and prefer whole blood to pooled plasma. In order to stimulate peristalsis we frequently give two ounces of castor oil through the stomach tube and repeat it every 12 hours until the bowels move. In low colon resections a rectal tube is inserted to a point above the anastomosis and irrigated frequently. To combat the infection in the wall of the damaged bowel penicillin and streptomycin are given intramuscularly. The stomach tube and the rectal tube are removed as soon as there is passage of gas and some feces by rectum provided the abdomen is not distended; this is usually on the second or third postoperative day. Liquids and very soft foods are then given, and the amount and character of the food is increased as rapidly as tolerated.

The whole treatment of intestinal obstruction can be summarized in three principles:

Restoration of the fluid and chemical balance of the patient, removal of the cause of the obstruction, and deflation of the intestinal tract.

805 West Franklin Street.

THE SURGICAL TREATMENT OF INGUINAL HERNIA IN INFANCY AND CHILDHOOD—CHANGING CONCEPTS*

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A number of misconceptions have retarded the general pediatric and surgical acceptance of the highly logical procedure of early repair of inguinal hernia in infancy and childhood. Not only has there been the major fallacy of advising delay in instituting corrective therapy, but the equally grave one of the surgeon, when operation is done, employing the same traumatic, rough and unnecessarily radical techniques used in adult hernioplasty. As Potts[6] has so aptly stated, "Herniorrhaphy in infants as compared to that in adults is similar to the difference in repairing a Swiss watch and a Big Ben alarm clock!" Among the many objections to prompt surgical intervention that have been advanced are the following:

1. Inability of infants to withstand surgery and anesthesia. This particular objection has certainly been eliminated by the proven ability of children to successfully undergo extensive surgical procedures, such as that employed on congenital cardiac abnormalities, esophageal atresia, intestinal atresia, and many other massive operations.
2. Delicacy and minuteness of infantile structures. If one were to use this as an argument against surgery, then certainly by the same token, many ophthalmic and neurosurgical operations would be eliminated.
3. The misconception that most inguinal hernias will either spontaneously or can be made to permanently disappear. The time-honored truss may per necessity have to be used in patients where operation is definitely contraindicated, but in general it is highly unsatisfactory to both parent and physician, and gives, likewise, a false sense of security.
4. Fear of serious, harmful, postoperative influences on the reproductive system, such as testicular atrophy and cord compression. With proper gentle, non-traumatic techniques fear of this is relatively groundless.
5. Fear of recurrence. Both from a theoretical and practical viewpoint, the chance of recurrence is probably lowest in infancy and childhood than an any other age. The majority of cases presented in this series is of too short duration to draw any conclusive statistics as to the incidence of recurrence. Reported groups of cases, however, by other authors show that the chance of recurrence, provided the sac is completely removed, is negligible.[4,6] This, of course, results from the fact that there is no definite weakness of the parietes, but rather that the abnormality consists only of a congenital sac whose removal cures the hernia henceforth.[1,2,5]
6. Undue alarm that the wounds will suppurate because of urinary and fecal contamination, particularly in the smaller infants. This has been greatly exaggerated and with proper care a major wound complication rarely occurs. The routine employment of some antibiotic also in recent years has lessened the possibility of wound suppuration. In the series of 100 cases presented, there was not a single case of significant wound infection.

The case for early operation is a very strong one:

1. It nullifies the anxiety resulting from sudden alarming incarceration.
2. The procedure is withstood better; is much simpler; the postoperative course is smoother; the hospital stay shorter; and the results better than in any other age group.
3. The very important factor of destroying or preventing serious parent and older child mental complex and emotional disturbance associated with the known genital and potentially dangerous defect is immediately eliminated.
4. The attendant evils associated with the wearing of a truss, namely, filth, ulceration, repeated rash, possible testicular atrophy, and failure to retain the hernia, are ended.

Etiology

This is so well known as to make discussion seem

*Read in part before the Medical Society of Virginia, at Virginia Beach, October, 1951.

superfluous, but, nevertheless, many doctors are unaware of the numerous variations that may occur. The relationship between hydrocele (and they are frequently diagnosed in children) and hernia has been well established as being a *coexistent* one. Coles[1] has raised the question that pure hydroceles in which there is actual elaboration of fluid from a lining membrane, *never* occurs in children, and that the hydrocele fluid is always the result of the hernial communication with the peritoneal cavity. Furthermore, he states that the "hydrocele" is cured invariably by simple ligation of the hernia sac. He feels, as do most pediatric surgeons, that there is invariably a small opening often unrecognized which allows peritoneal fluid to seep through into the lowermost recesses of the tunica vaginalis. Certainly, Larsen,[4] Potts,[6] and others[2,5] have emphasized repeatedly the invariable finding of hernia with alleged hydrocele. In the present series of 100 cases, approximately 25 were seen with the initial complaint of hydrocele, and in every case a hernia was found in conjunction with the "hydrocele" of the tunica vaginalis.

Diagnosis

The presence of a hernia or "hydrocele", or the history from reliable parents of a transient recurrent groin mass, often associated with pain, is usually sufficient for the diagnosis. If incarcerated, the diagnosis naturally is obvious. In the non-incarcerated hernia, one is often unable to demonstrate the actual hernia sac and must rely upon the parent's or pediatrician's story, plus the fact, as Ladd and Gross[3] have pointed out, that the involved side usually shows thickening of the cord at the pubic spine on palpation. A large ring alone in the absence of history or findings or hernia is not necessarily indicative of that diagnosis.

Treatment

In the absence of commanding contraindications, elective herniorrhaphy is advised on all infants and children with inguinal hernia *regardless of age*. If incarcerated, only the gentlest manipulation is attempted and immediate surgery is carried out if judicious taxis fails very promptly to reduce the intestine. Certainly, manipulation, if any, must be extremely delicate. In the event that reduction occurs at this time, operation is elected for the near future unless the bowel has been protruded for a long period of time. In this instance it is probably better to proceed with immediate herniorrhaphy despite the disappearance of the incarceration.

Preoperative Considerations

The child enters the hospital the afternoon before surgery, and undergoes the usual standard routine preoperative workup. If there is any suggestion of an upper respiratory infection, of a rash or irritation in the area of incision, or any temperature elevation, the procedure is postponed until a later date. The child is given an appropriate dose of atropine, one hour preoperatively.

Operation

The anesthetic is always open drop ether. In an older child an induction with Vinethene is permissible and makes the anesthetic somewhat more pleasant for the child. A minor point, but one that will occasionally prevent scrotal and labial burns,

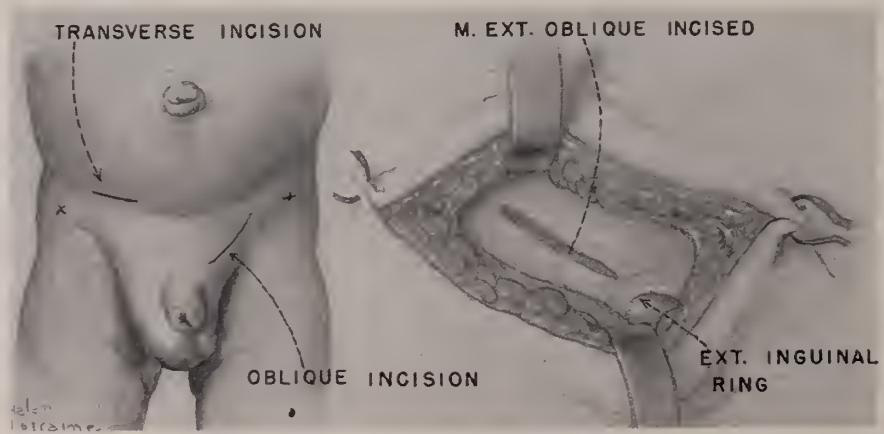


Fig. I.—The short transverse incision made in the distal flexion crease of the abdomen used in infants is demonstrated, as well as the longer oblique one reserved for the older child. On the right, the incision through the aponeurosis of the external oblique with preservation of the external ring is shown.

is the use of non-irritating antiseptics in preparing the operative field. In children under two years of age, the most satisfactory approach has been found to be a short one to one and one-half inch incision in the flexion crease located over the lower abdomen (Fig. I). This transverse incision gives excellent exposure and postoperatively is most gratifying, particularly to the parents because of the minimal amount of scar and lessened tendency to keloid formation. For the older child in whom the suprapubic fat pad has well disappeared, the standard oblique incision running from the pubic spine upward for several inches is employed. It is possible in most cases to incise the aponeurosis of the external oblique muscle and to consummate the operation quite satisfactorily, without opening the external ring, as has been emphasized by Potts[6] (Fig. I).

identified. The sac, which is of variable size, is picked up usually on the antero-mesial aspect of the cord, gently stripped of cremasteric fibers, and opened (Fig. II). At this point it is obvious that the cord elements are quite intimately associated with the sac wall, rendering dissection often times difficult and hazardous. In the more adherent cases it may greatly facilitate the procedure by infiltrating saline beneath the serosa, as shown in the accompanying illustration[5] (Fig. III). After transection of the sac, the upper end is ligated with silk or minute catgut and allowed to retract. *At no time is the cord elevated and handling of this structure is reduced to a minimum.* The lower end of the sac may be completely, and usually is, ignored, or, if it strips up easily, removed. In those cases in which there is a definite extension simulating a true hy-

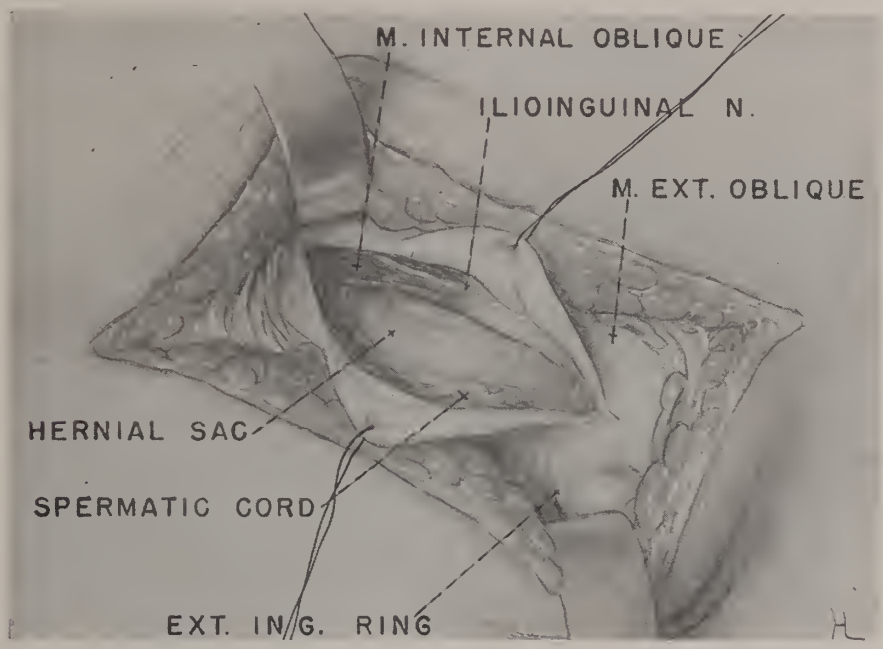


Fig. II.—In this drawing the usual position of the sac on the antero-mesial aspect of the cord is shown. The small ilio-inguinal nerve has been reflected medially and the external inguinal ring has still been preserved.

One of the objectionable features in herniorrhaphy in children in the past has been the fact that in the reconstruction of the external ring undue constriction on the cord was made with resultant testicular atrophy. In massive hernias, or in those associated with a large collection of fluid in the tunica vaginalis, or in incarcerated hernias, it may be necessary to open the ring. This should be done quite carefully and the ilio-inguinal nerve preserved. The nerve is quite minute in infants and must be carefully

drocele, only the redundant portions are excised, the remainder being left *in situ*. The so-called Bottle operation is never done. It is important to ligate all active bleeders no matter how small they may seem in an attempt to eliminate the postoperative complication of hematoma of the scrotum. A few silk sutures are placed which approximate the conjoined muscle and the shelving edge of the inguinal ligament, although I am not at all sure that these are necessary (Fig. IV). The British omit this step,

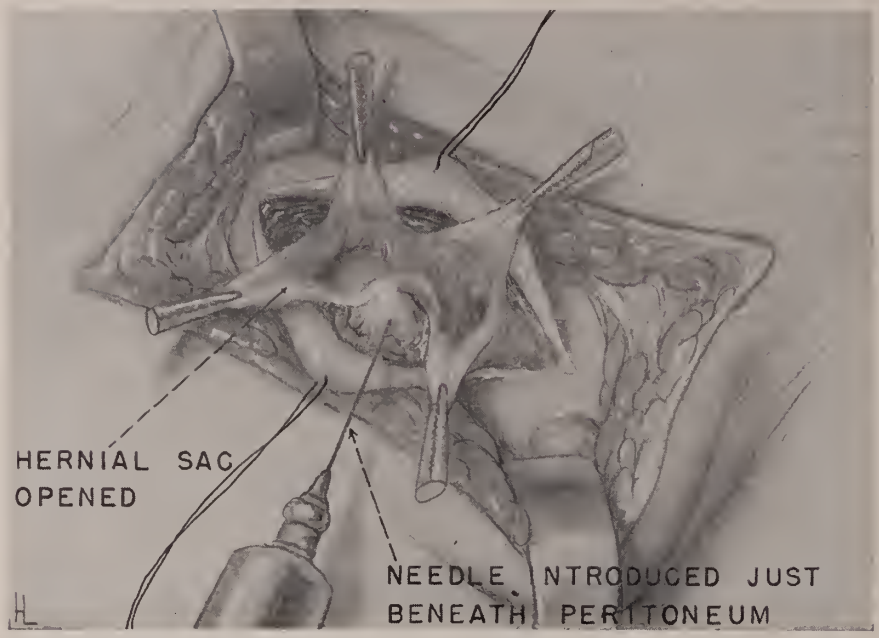


Fig. III.—This demonstrates the maneuver which is occasionally helpful in elevating the delicate serosa from the cord structure by infiltration of saline beneath the peritoneum to facilitate development of the sac. The upper end will subsequently be ligated and allowed to retract, and the lower portion of the sac will be ignored.

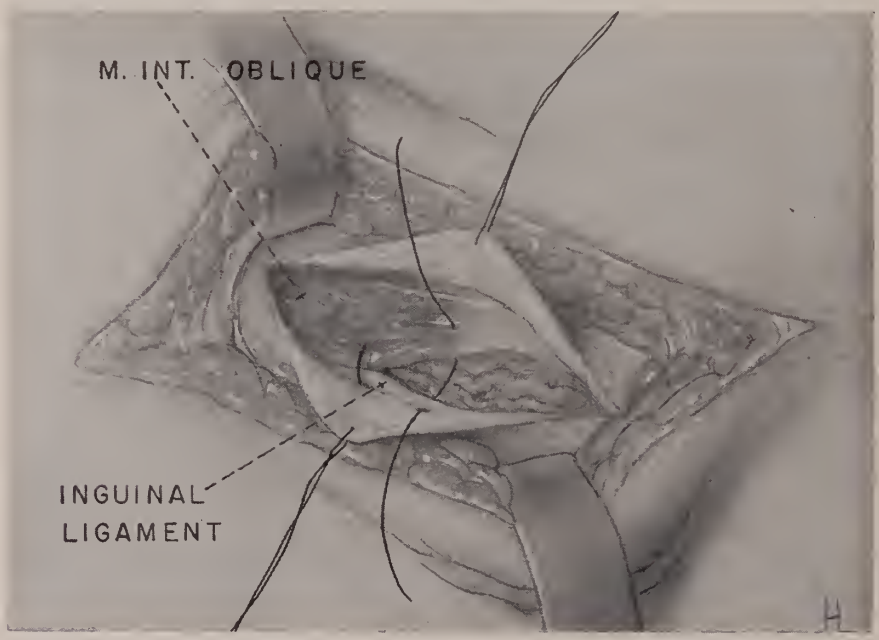


Fig. IV.—The sac has been eliminated and several fine silk sutures have been placed to approximate the conjoined muscle to the shelving edge of the inguinal ligament. Many surgeons omit this step.

and their results are excellent. The aponeurosis is then closed with interrupted fine silk and the same material is used for the skin. In recent years, I have been employing a subcuticular stitch to approximate the skin, using minute eye catgut with an attached, extremely fine, cutting-edge needle. This eliminates the trying procedure, both to the surgeon and the child, of suture removal later. An occlusive collodion dressing is applied directly to the wound and a standard dressing, using narrow adhesive strips

placed on top of this. The latter is removed at the discretion of the nurse, in case it becomes saturated with urine or contaminated with feces. The average operating time for each hernia is approximately fifteen to twenty minutes. The question of bilateral simultaneous herniorrhaphy has often been raised. In adults, particularly older ones, it may, under certain circumstances, be felt inadvisable to repair two large hernias at the same time for fear of weakening one or both of the hernioplasties. In children, this objection would seem to be invalid because the pathological factor is that of congenital sac and not of parietal weakness. In view of this, if the child is in good condition and withstands the first side without untoward complication, the contralateral hernia is then repaired without any hesitation. There is no field in surgery in which gentle technique, adequate hemostasis, the use of extremely small suture material, and diligent respect for tissue, pays off higher dividends than in pediatric surgery in general and in hernia surgery in particular. In the incarcerated hernia, after the bowel has been carefully inspected and reduced, the same basic technique is carried out. It is apt to be somewhat more difficult because of associated edema.

Postoperative Care

No restraints whatsoever are placed on the child's physical activities following surgery. He is allowed to resume his normal pediatric feedings as soon as they are tolerated. A mild sedative to control restlessness if this is exorbitant, is used, although most patients require none. The outer dressing is changed according to necessity, and the nurses are instructed to keep the infant as clean as possible. One of the longer acting varieties of Penicillin is usually given daily during the period of hospitalization. The patient is allowed to go home after the second postoperative day. The sutures are removed in the office, in those instances in which non-absorbable ones have been used, on approximately the fifth or sixth day. The parents are always instructed before operation that there will be some transient swelling of the scrotum on the involved side. This is usually minimal and clears up within the first few weeks postoperatively.

Statistics

100 consecutive infant and child inguinal hernias involving 95 patients have been reviewed. The youngest child in the series was one week of age and the oldest was twelve years. Four simultaneous bilateral herniorrhaphies were done. One child returned nine months after right-sided herniorrhaphy with a sac on the left side which was subsequently repaired. 94% of the herniorrhaphies were in male children which corresponds very closely with other reported series. 75% of the inguinal hernias repaired were on the right, and there were two associated femoral hernias, both of these occurring in female infants. In five of the female children operated on for hernia, there were sliding components involving the tubes and ovaries. A most significant fact, and one which has been reported by other authors, is that 25% of the hernias were operated upon in the face of incarceration. *This is a strong point for early surgical intervention.* Resection was necessitated in only one case, this being a three weeks old female, and demonstrates the relative infrequency of strangulating obstructions requiring resection in children. One factor of extreme importance is that 55% of the incarcerated hernias, as will be seen by the accompanying graph, were in infants under four years of age. (Fig. V). 44% were under the age of

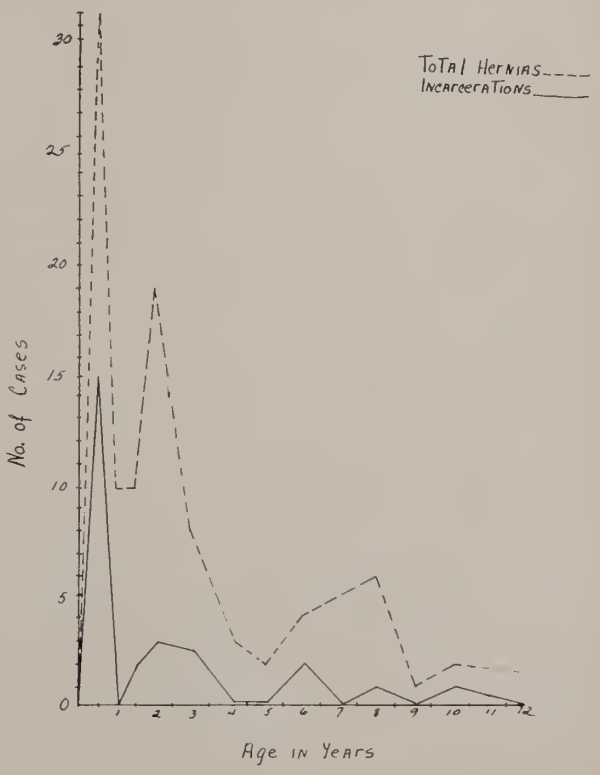


Fig. V.—This graph shows the extremely high incidence of incarceration occurring in inguinal hernias in the first few months of life, and corresponds closely with other reported series. It demonstrates conclusively the importance of early operation from the viewpoint of possible incarceration alone.

three months. No attempt was made to investigate the incidence of recurrence because of the relatively short follow-up period involved in most of them. From the literature, it is quite obvious that recurrence is extremely rare and *never* occurs if the sac is completely eliminated. There was no mortality and no significant wound infection. No known postoperative testicular atrophy has occurred. There have been several transient scrotal hematomas, but these have disappeared within a short period.

CONCLUSIONS

In conclusion, it would be well to reiterate that the salient features of the inguinal hernia problem in children involves two major concepts:

1. These children should be operated upon when the diagnosis is made, providing there is no commanding contraindication to surgery. It is no longer tenable to advise procrastination and delay in instituting repair. Both the immediate and late results are excellent.
2. At the time of operation one should employ a gentle technique, the cord should be traumatized as little as possible, fine suture material should be used, and as little dissection as possible carried out. Adult type hernioplasty should be abandoned under these circumstances. A series of 100 cases has been reported.

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New Books.

Below are listed some of the newer additions to the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. Most of these may be borrowed by our readers under usual Library rules.

Aero Medical Association—Aviation toxicology. 1953.
Burket—Oral medicine: diagnosis and treatment. 2d ed., 1952.
Cattell & Warren—Surgery of the pancreas. 1953.
Colson—The rehabilitation of the injured. 2d ed., 1945.
Cutlip & Center—Effective public relations. 1953.
Dickson & Diveley—Functional disorders of the foot. 3 ed., 1953.
Gross—The surgery of infancy and childhood. 1953.
Gurdjian & Webster—Operative neurosurgery. 1952.
Hughes—Office management of ocular diseases. 1953.
Kaplan—Functional and surgical anatomy of the hand. 1953.
Karpovich—Adventures in artificial respiration. 1953.
Leavell & Clark—Textbook of preventive medicine. 1953.
Sheldon—Manual of clinical allergy. 1953.
Te Linde—Operative gynecology. 2d ed., 1953.
Turner—Handbook of diet therapy. 2d ed., 1952.
Wartenberg—Diagnostic tests in neurology. 1953.
Willis—The spread of tumors in the human body. 1952.
Wolf & Wolff—Headaches: their nature and treatment. 1953.
Ziegler—Electrocardiographic studies in normal infants & children. 1951.

A SIMPLE PROCEDURE, USEFUL IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CHEST*

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The need for a simple procedure to dislodge secretions in the bronchial tubes and to facilitate their removal was brought to my attention in 1928. The specific problem which made me aware of this need was the diagnosis, with the aid of the X-ray, of two cases of massive atelectasis in children who had had no recent operation. The atelectasis followed a bad accident in one case, and the other was an apparent pneumonia after measles. The recognition of atelectasis in childhood under such circumstances at that time was a new experience for me, and it stimulated me to further study and later to make a written report.[1] Fortunately, several very enlightening studies had recently been published. Such papers as those by Coryllos and Birnbaum,[2] Coryllos,[3] Mastics, Spittler and McNamee,[4] Henderson,[5] Scott,[6] and others, left little doubt that bronchial blockage, usually by muco-purulent secretions, was the essential factor in the etiology of atelectasis and post-operative pneumonia. The roles played by such contributing factors as posture, restraint, anesthetics, sedatives, shock, toxemia, pain, unconsciousness, etc., in hindering the expulsion of respiratory tract secretions then became obvious. With this understanding there also came the demand to devise preventive and therapeutic measures to take advantage of this new knowledge. Since these problems were recognized in the surgical field, the discomfort incident to a radical change in established treatment and in orthodox thinking fell primarily on the surgeon. Changes in sedation, anesthetics, and in post-operative care, such as carbon-dioxide inhalation, changing position, early ambulation, bronchoscopic suction and even beating on the chest, were devised and used with advantage. The medical men, including the pediatricans, apparently accepted the explanation for atelectasis and post-operative pneumonia at face value, but also apparently continued to consider these conditions as respiratory complications of surgery and not related etiologically to the commonly accepted types of respiratory infections. These infections generally were described in the text-books of medicine with divergent but academic opinions as to the role that might be played by bronchial blockage. Holt and Howland, in their text-book of Pediatrics[7] (1919), while discussing broncho-pneumonia, said: "Much has been said in the past about pulmonary collapse from obstruction of the small bronchi, as a condition antecedent to this form of pulmonary inflammation. So far as our observations go (post mortem), there has been adduced but little, if any, evidence that this is the rule, or, indeed, that it often occurs." There certainly was no rush to change the prevailing, conservative and symptomatic medical treatment after the pathogenesis of atelectasis had been widely publicized. Actually, many of the therapeutic measures then in common use were of dubious value, and some of them, e.g., the insistence on quiet, and the use of sedatives strong enough to allay pain and cough, were obviously not logical if bronchial blockage occurred frequently. After finding the two cases of atelectasis in my practice, and after studying the then recent literature pertaining to that condition, I came to the conclusion that bronchial blockage of varying degree and duration might be an important factor in many pulmonary infections, and that, if this were true, a re-appraisal of treatment was in order. With this thought in mind, I decided to try a simple variation of two instinctive procedures, which consisted of a heavy bi-manual percussion over the affected area of the chest, to be followed by a cough, induced if necessary by means of a tongue depressor, to see what would happen. I figured that this combination would first dislodge the obstructing secretions and then expel them from the bronchi. I began to use this procedure almost routinely about twenty-five years ago and have continued to use it with increasing satisfaction ever since. The purpose of this paper is to describe this procedure, and to tell how it has helped in treatment, in diagnosis, and in visualizing conjecturally the disturbance of physiology in the individual case.

A brief consideration of the anatomy and physiology of the chest and its viscera should serve our purpose here. The fairly rigid chest wall is elevated by the muscles attached to it, the intercostal spaces are widened and the diaphragm is contracted during inspiration. These changes tend to enlarge the chest and to increase the negative pressure in the pleural

*Read at the meeting of the Virginia Pediatric Society in Williamsburg, March 6, 1953.

cavity. The negative pressure in turn pulls air through the tubes and into the lungs. Expiration depends on both the relaxation of the inspiratory group of muscles, including the diaphragm, and on the contraction of the abdominal muscles, internal intercostals, etc., plus the elasticity of the lungs. The lung itself structurally resembles a bunch of grapes, the bronchial tubes corresponding to the stems and the alveoli to the grapes. In the walls of the alveoli are the capillaries where the interchange of gases between the air in the alveoli and the blood occurs. If any bronchus is completely obstructed, the air in the alveoli supplied by that bronchus is absorbed—the oxygen, about 20%, going first, then the carbon dioxide, nitrogen, etc., at a slower rate. The absorption of these gases produces a partial vacuum in the affected area, and this dilates the local capillaries and pulls on the secretions in the bronchus and on the surrounding structures. The pain which results causes a voluntary suppression of coughing and interferes with sleep. The suction from the negative pressure, and the dilated capillaries also, favor a more rapid absorption of toxins and bacteria if the block is caused by infection and exudate, and this increases the fever. This same suction also might play a determining role in the progression of the infection by drawing infectious material deeper into that part of the lung dependent on the blocked bronchus.

If the bronchus is not completely blocked, the lung tissue dependent on the partially blocked bronchus tends to distend. This occurs because the inspiratory efforts are more effective than the expiratory in getting air past a valve-like obstruction. The trapped air probably loses most of its oxygen and increases its percentages of carbon dioxide and nitrogen. Toxin absorption probably is impeded in such areas, because the distention in the affected lung compresses the capillaries, and this may account in part for the lack of fever, which is often found when this type of pathology predominates.

Before mentioning specific diseases or conditions whose diagnosis is facilitated by heavy percussion and cough, I think I can state definitely, from twenty-five years of experience, that, when any air is left in the lung tissue dependent on a bronchus blocked by secretions, heavy percussion over that area, which produces a rapid alternation between negative and positive pressure, generally will dislodge the obstruction and facilitate the entrance of air to the collapsed lung area. Furthermore, I can say that I have never seen any injury result from this simple operation. Once the obstruction is moved, even slightly, air may begin to slip by, and this can be detected by changes in the physical findings. If the affected area is dull from exudate in the alveoli, a clearer bronchial note may be detected after the heavy percussion, but no startling change to diagnostic percussion will be noted. If the originally dull area becomes more resonant, rales appear or become coarser and the cough becomes productive, an atelectatic component can be surmised. If atelectasis without pneumonia is present, the abnormal chest findings may clear almost completely in a few minutes, with nearly instantaneous relief of pain when air enters the collapsed lung, the resumption of an effective cough, and a rapid fall in temperature, if fever had been present. If pathology is present and no change results from the heavy percussion and cough, a more serious type of trouble is suggested, such as pleural involvement, tuberculosis, complete lobar consolidation, a drowned lung from a foreign body, lung abscess, etc., and further study is indicated.

When the bronchus is not completely blocked, air can be sucked in, but unless expiration is normally effective, some of that air will be trapped and will distend the involved alveoli. The resulting emphysema can be detected clinically by a hyper-resonance to percussion, which extends beyond the normal borders of the lungs. Associated with this extended hyper-resonance are diminished breath sounds and, generally, wheezy rales. Bronchial asthma can be considered the prototype of such pathology. Heavy percussion over emphysematous areas usually pushes out most of the air from the affected lung tissue and flattens that area. Subsequent diagnostic percussion then reveals a slight dullness in place of the hyper-resonance and a shrinkage of up to two or three inches of the affected lung; and auscultation reveals louder breath sounds and much more easily heard rales. While the lung is being pumped up again, and this usually occurs within a minute or more, depending on the size of the obstruction, the character of the rales and their location in the respiratory cycle can be noted. Opportunity also is afforded to find areas of dullness near the lung roots or extending out from the mediastinum which previously might have been hidden by the distended lung, e.g., certain cases with the primary complex of tuberculosis where there is narrowing of a bronchus by an enlarged lymph node,

a more accurate determination of the cardiac area of dullness, etc. Early virus, or atypical, pneumonia is suggested by finding one or more areas of emphysema, with slightly diminished breath sounds, and slightly wheezy rales which are heard more distinctly after heavy percussion. These rales do not clear with cough. Slightly later involvement with the same disease generally will be revealed by finding small patches of dullness and fine rales near the lung roots which do not clear after heavy percussion and cough but rather appear to be more easily discerned.

A foreign body which obstructs a bronchus may be associated with edema and muco-purulent secretions which intermittently occlude bronchi nearer the lung root and produce partial atelectasis, diminished breath sounds, impaired resonance and rales. The heavy percussion and induced cough may dislodge these secretions, relieve the partial atelectasis above the foreign body and so permit the detection of a sharply demarcated triangular area of flatness and markedly diminished breath sounds. With the help of such findings, I recently diagnosed a foreign body in the bronchus of a six-year old child who, when first seen, had been coughing for six weeks and who denied that she had ever aspirated any foreign material. The roentgenologist and a consultant preferred the diagnosis of pneumonia and the postponement of bronchoscopic examination. The condition in her lung failed completely to respond to medical treatment for pneumonia, and tuberculin tests were negative. Bronchoscopic suction removed small pieces of charred tobacco and purulent material. The same kind of physical findings on a smaller scale later called for a second bronchoscopic suction, which produced some more tobacco particles and greatly improved the condition of her lung.

The chief role of heavy percussion and induced cough for treatment obviously is to dislodge secretions which are blocking the bronchi and to get these secretions out of the tubes when the patient's own efforts have not been effective because of pain, toxemia, posture, drowziness, etc. Under these circumstances, the improvement which results is often quite obvious. For conditions such as asthma and early virus pneumonia, where the partial obstruction is largely due to pathology which narrows the lumen of the bronchus, stale air in the emphysematous lung usually can be pushed out easily by heavy percussion but any relief from the change of air is temporary. Nevertheless, I have treated children, ill with asthma, who demanded the repetition of the heavy percussion for most of the night, apparently because they obtained some much needed relief.

Summary and Conclusion

A simple and safe procedure, namely, heavy bimanual percussion of the chest and induced cough, which has been used for the past twenty-five years, has been described.

The pathogenesis of atelectasis and of emphysema and the changes which result from these conditions have been reviewed because they furnish the rationale for this procedure.

For the patient, the changes which often result from heavy percussion of the chest and induced cough may be of definite benefit as treatment. For the physician, either the change or lack of change in physical findings provide additional help in diagnosis.

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AN OPERATIVE PROCEDURE FOR CORRECTION OF THE UNSHAPELY DETRACTIVE NOSE

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It can be said without over-statement that the correction of the disfigured nose can change for the better the entire life situation of the individual.

Today, people know too much about the wounds of social suffering to ignore the mental anguish that is frequently precipitated by a detractive nose. Those who are afflicted with an unsightly appearance, such as an unshapely nose will so often give, are always conscious of the handicap, and they possess a deep and genuine desire to have something done about it.

Unfortunately, because of the lack of proper interest on the part of the medical profession, these patients too often do not receive the sympathetic advice that they are entitled to, and they continue through life suffering the social and economic disadvantages which deprive them of a full and useful existence.

For those who are mentally alert, the task of living with the deformity is most difficult, and in many cases the psychological adjustment is not possible, due to a consciousness of the disfigurement.

These people have a right to expect that something can be done to improve their lot in life, and they should not be discouraged in their search for a means of bettering their outlook.

It would be a study in buoyancy if the medical profession as a whole could witness the activities of these patients subsequent to the correction of their disfigured noses. Almost without exception the patient promptly becomes able to cope with all the normal currents of his existence. So to speak, they take a new lease on life.

After careful examination of the external nose and the determination of the presence or absence of any complicating features within the nose, the surgeon should be able to impart to the patient a fairly satisfactory conception of what changes he deems necessary to effect the required correction. He should take into consideration the preconceived ideas of the patient and explain to him in simple terms the presence of any anatomic or functional abnormality which exists.

Most intelligent patients can be made to understand that each case presents a particular problem, and that the surgeon must be guided by his own judgment and by any limitations which may exist on account of anatomic abnormalities. There are some patients, however, who make unreasonable demands, which in the opinion of the operating surgeon cannot be met, and such patients should not be encouraged to have the operation. In other words, when the doctor and the patient cannot agree on common ground and the patient made to understand that there are possibilities for improvement, but limitations to perfection, that patient should be tactfully advised not to undergo the operation.

Before undertaking this type of surgery one should exercise every care in the recognition and elimination of all skin lesions, such as rhinophyma and its precursor acne rosacea, lupus, etc., if a satisfactory result is to be anticipated. The surgeon should also be on the alert for those patients whose nasal skin presents large pores filled with sebaceous matter and those that have minor acneiform conditions and telangiectasis.

Corrective rhinoplasty essentially involves the reshaping of the osteocartilaginous structures of the nose. This permits the over-lying skin previously undermined to adjust itself and to re-attach to the remodeled framework beneath. Large-pored skin is less easily adjusted because of its excessive thickness, and therefore does not accommodate itself smoothly to the reconstructed bone and cartilage which lies beneath. Patients with skin lesions of any description should receive proper pre-operative care to preclude the possibility of post-operative infection.

The operation herewith described is one in which the writer features the chisel as a substitute for the saw, and, in so doing, conserves time and effort and reduces to a minimum some of the problems not too infrequently encountered in doing this type of surgery. The technic presented is not difficult of ac-

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complishment, and the results are usually satisfying to both the patient and the surgeon.

Only a brief outline of text is necessary to make clear the fundamentals of the operative procedure, as the accompanying illustrations should adequately serve to clarify the technic described.

Operation

The nostril is retracted and an incision is made in the aponeurosis situated between the superior and inferior lateral cartilages. The incision is extended inward, forward and downward, dividing the cartilaginous septum from the columella (Fig. I). A small curved Mayo scissors is introduced in the mid portion of that part of the incision which divides the superior and inferior lateral cartilages, and with this instrument the over-lying skin is detached from the under-lying cartilages. This will facilitate mobilization of the tip region (Fig. 2). After having elevated the perichondrium and periosteum in the lateral and dorsal regions, the convexity of the dorsum is excised with a chisel. This reduces the height of the bridge (Fig. 3). To shorten the nose the elongated nasal septum is trimmed at its lower border with scissors or a knife, and the excess nasal spine, when present, is eliminated with a chisel (Fig. 4). The superior lateral cartilage is severed from the nasal septum and a segment of the cartilage, triangular in shape, is removed to permit narrowing and slight shortening of the nose in this region (Fig. 5).

Using scissors, the inferior lateral cartilage is made smaller and shaped to reduce the size of the

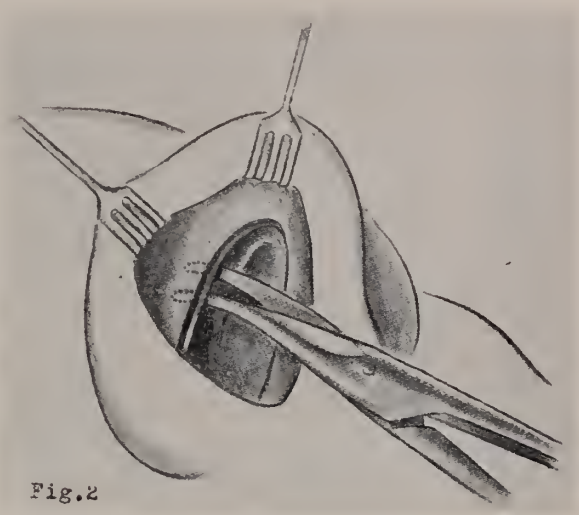


Fig.2

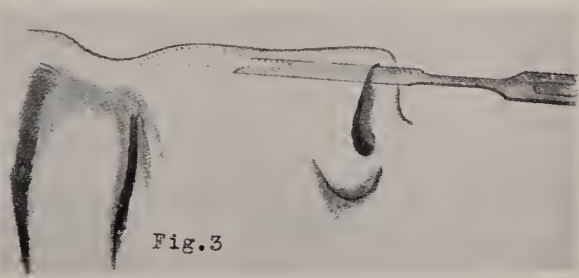


Fig.3

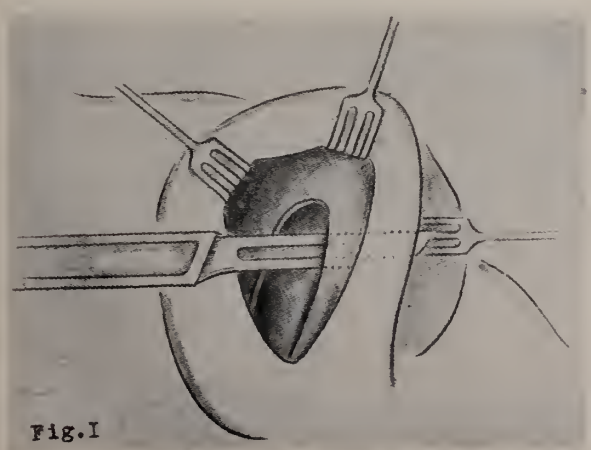


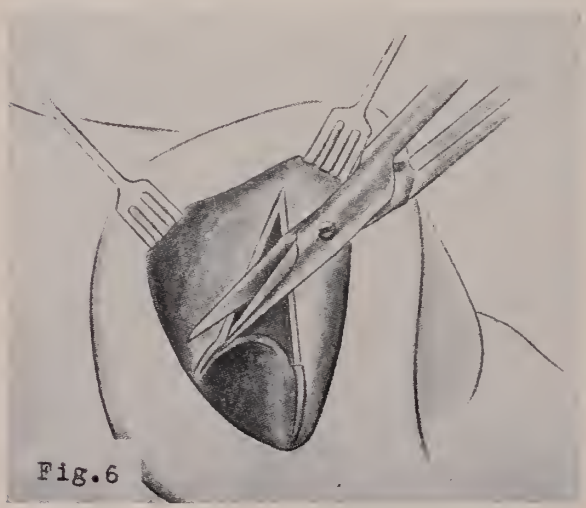
Fig.I



Fig.4


Fig.5

tip (Fig. 6). A strong chisel is placed in the vestibule of the nose lateral to the floor where the chisel is made to engage the nasal process of the maxilla. From this position the chisel is driven to the naso-


Fig.6

frontal suture line. This severs the bone at the nasofacial angle. The external nasal walls can now be pressed medially, and this maneuver will result in a narrower nose at its base (Fig. 7). A splint is applied to immobilize the reconstructed parts (Fig. 8).

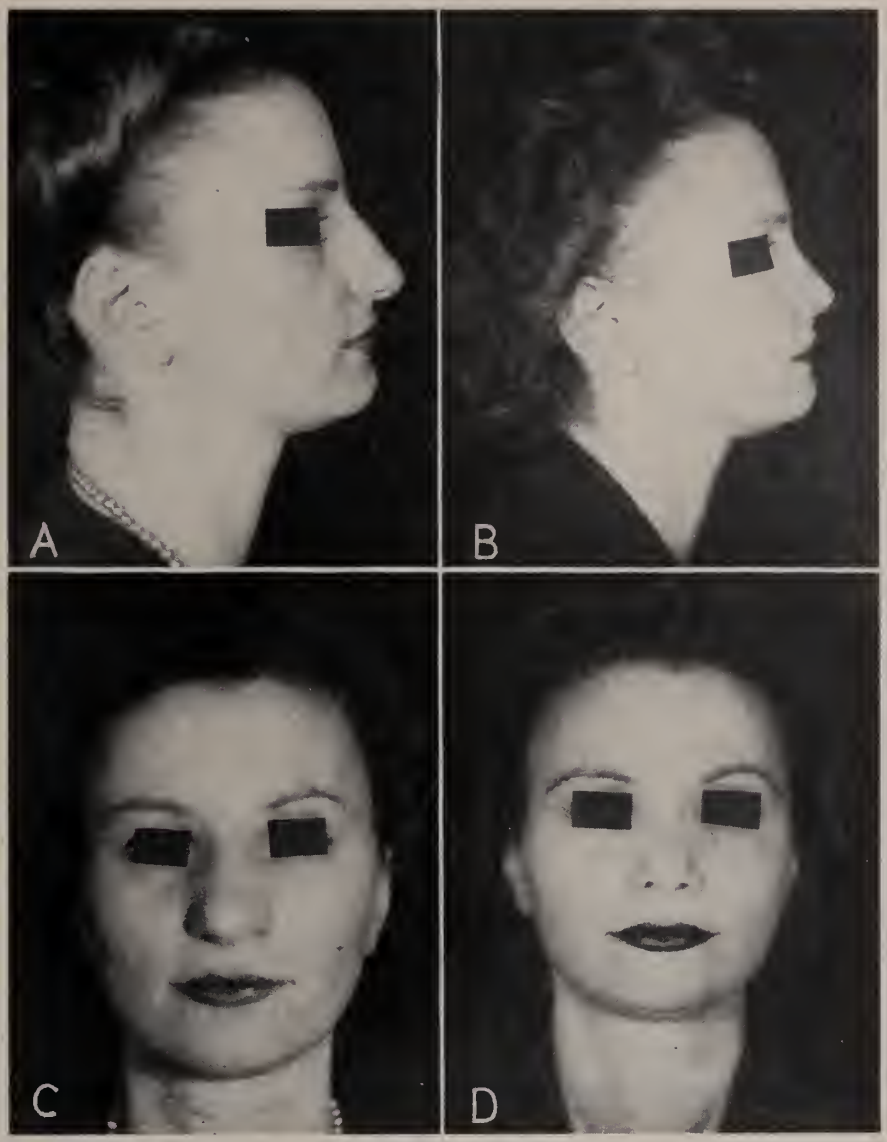
The outline of the technic here shown involves mainly one side of the nose. Obviously, it is necessary to repeat this same technic on the companion side. Meticulous care should be observed to make


Fig.7


Fig.8

certain that each reconstructed part is surgically and artistically good before applying the cast for the purpose of immobilizing the reassembled structures.

The accompanying photographs show how pronounced can be the improvement in appearance of the entire face following this type of surgery.



Photograph A. Profile view showing large unshapely nose. This is a common type of facial disfigurement which is entirely due to the malformed nose. Note the good appearance of other features of face.

Photograph B. The heavy coarse appearance of all the features of the face shown in preoperative view (photograph A) and due entirely to the disfigured nose, no longer exists following the correction.

Photograph C. Showing full view of same patient. Note the wide spread and excessive length of nose and how it detracts from the other good features of the face.

Photograph D. The nose in this postoperative view is in harmony with the remaining features. Compare this with photograph C and witness the more youthful and alert expression.

CANCER DETECTION*

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The majority of patients seeking medical attention suffer minor illnesses which are self-limited or may be readily cured or corrected. Public Health, health education, chemotherapeutic drugs and antibiotics have all but eliminated many formerly serious infections and hazards of surgery and accidental injury. Medicine has thus remarkably reduced the suffering, disability and death from many diseases and enabled a great many more people to live past 45 years. In our nation alone, the population of 45 and older has *tripled* in the past fifty years and is rapidly growing. Whether we like it or not, emphasis in medical practice has been forced from the infections of the young to the infirmities of the old. Cardiovascular degenerations and cancer not only lead the causes of death today, but are rapidly gaining in importance. In spite of great strides forward in cancer research, the practice of cancer medicine lags far behind, and so it maims, debilitates, and kills largely due to its insidious onset, silent early phase of growth, and *late* diagnosis. Cancer is chronic, causes prolonged suffering and is ruthless in its course. Cancer is very expensive.

There is an alarming increase in occurrence of cancer which is absolute, over and above all that is accounted for by better diagnosis and increasing older population. Cancer of the lung has tripled in occurrence during the last several decades. The biostatisticians calculate that if we all live to reach 125 years, each will be victim of some type of cancer.

Although rare in childhood, cancer kills more children than poliomyelitis or measles or pneumonia. Cancer of the stomach and colon kills more men than war.

The importance of cancer in medicine is rapidly growing and demands more constant attention, greater effort and continuous vigilance not only by the public, but by us in the profession.

THE PROBLEM

Cancer, particularly visceral, is silent. There are no real signs or symptoms of early cancer. Cure is hopeless after remote metastases have occurred. Metastasis too often *exists* at our *first* contact with the patient. Cancer *can be cured* but requires *early diagnosis* before metastasis or local extension. The *only* answer to improved *cancer control* is the *physician's alertness* to the problem of early diagnosis and education of the public to the necessity of *periodic examination* for suspicious evidence of tumor after age 40. In no other way can we reduce suffering and death by prompt adequate surgery or irradiation. Much can be done to better combat this growing menace by wide application of what we already know.

PRACTICAL ASPECTS OF CANCER DETECTION

Complete physical examination of the entire population in any community every six months is obviously impossible. There are too few doctors and too many people. For the Richmond area such an effort would require the full energy and time of 60 physicians, and for Virginia, 520, not including x-ray, laboratory and consultant services. Such a complete survey of persons of all ages would be possible only if there existed a reliable, easily applied blood or urine test for cancer. There is *no such specific cancer test*. It is extremely doubtful that one ever can be developed. Cancer is variable and protean. It is a biological state. It is composed of cells which are metabolically practically normal. The small group of cancer cells in a beginning malignant focus could not possibly produce enough abnormal chemical to be found when diluted with the overwhelming quantities of blood, lymph, and tissue fluids. However, a few tests are indicative of certain limited manifestations of several specific *late* neoplasms, such as elevated blood acid phosphatase in metastasized prostatic malignancy. The only reliable laboratory proof of cancer is revealed by the biopsy and careful microscopic examination.

However, we may take advantage of the characteristic habit of cancer, namely, its relatively high occurrence in persons over 40 years of age and predominance in certain organs—the breast, uterus, bowel, stomach, lung, and skin. *Eighty per cent* or more occurs in these sites in victims past middle age. Therefore, each of us can contribute signifi-

*Read at the annual meeting of The Medical Society of Virginia in Richmond, September 28-October 1, 1952.

cantly to cancer control by periodic survey of our share of this smaller segment of the population. Distribution of this group among the local practicing physicians further lightens the individual doctor's load of examinations. A very important advantage of examination by the family doctor is his familiarity with the patient's medical, emotional, and social background—a sound basis for guidance in interpreting symptoms, not available to the strange clinic physician.

The feasibility of cancer detection by community physicians has been demonstrated adequately during the past seven years by physicians conducting cancer detection examinations in their private offices in a cooperative plan organized by several medical societies. Very encouraging results have been reported from the Hillsdale County Medical Society, Michigan, and the Lorraine County Medical Society, Ohio. From Lorraine, Dr. A. C. Siddall (J.A.M.A., V.145, p. 314, 1951) reports that the cooperating physicians found 13 cancers in 950 "well" women and during the same period, 13 other malignant tumors were discovered in patients during routine visits for other maladies. This undoubtedly indicates the physician's increased alertness to the possibility of cancer, perhaps largely stimulated by the examination program. No less important, 255 of these women possessed other conditions requiring medical attention. The Connecticut State Medical Society in cooperation with the Connecticut Cancer Society has recently established a program for cancer detection examinations in doctor's offices. Any citizen of the state may call the County Medical Society office or any cancer society information center in Connecticut and obtain a list of physicians in his community who have agreed to participate in this valuable project. All members of the State Medical Society were invited to be included on these lists of participating physicians. Leaflets describing this program are distributed throughout the state, and persons desiring the examination are urged to make appointments with their own physicians at hours least likely to disturb their regular office routine.

In our own Commonwealth a similar program was started by the Richmond Academy of General Practice in cooperation with the Richmond Chapter of the American Cancer Society about two years ago. It has been found that the history and physical examination need not be unduly time-consuming if routines of most fruitful procedures are established. A brief but accurate record (always made at time of examination) is essential, and is required by the American College of Surgeons in their approved cancer detection procedure. It also aids the physician in establishing reliable and time-saving habits of examination and helps avoid oversight of an important organ. In order to conserve effort and yet include the group in which cancer is most likely to occur, the following plan is suggested: All women of 35 years or older should be subjected to careful examination of the breasts, cervix and lungs. If 45 or over, the uterine fundus, stomach, lower bowel, and skin (including mouth and tongue) must be included. Men of 45 years are entitled to a survey of the stomach, lower bowel, lung and testes. If 55 or older, they should be searched also for abnormalties of the skin and prostate.

Obviously, any suspicious symptom, such as *recent* persistent indigestion or belching, blood in the stools, intermenstrual or post-menopausal spotting, persistent ulcers or lumps anywhere, and persistent cough or hoarseness should be run down to a proven diagnosis. Definite symptoms or signs of cancer almost invariably mean advanced disease. Early cancer is detected when we *follow through* and determine the cause of slight signs which produce only suspicion that trouble is in the making. A suggested routine for examination including the most frequent suspicious signs and needed equipment is presented: Each physician is provided with helpful forms on which to quickly check his findings.

For women 35 years or over indicate negative items "O" and nature, size, etc., if positive.

Skin:
- Scaling patches
- Indurations
- Subcutaneous tumors
- Ulcers
- Moles
  - Signs of irritation, ulceration, recent growth, (especially on soles of feet, palms of hands and oral mucosa and vulva).

Mouth, Lips and Tongue:
- Luekoplakia
- Induration
- Ulceration

Lungs:
- Unusual cough
- Blood streaked sputum
- Dullness or change of breath sounds;
  - Location:

STOMACH:
Indigestion (especially if recent onset)
Epigastric mass
Tenderness
Liver size and character

COLON AND RECTUM:
Blood in stool ____ red; ____ black.
Palpable masses, lower abdomen.
Recent change in bowel habits
Hemorrhoids, fissues or other lesions
Rectal examination

LYMPH NODES:
Enlargement
Consistency
Location

BREASTS:
Palpable tumor
Ulceration of skin
Axillary lymph nodes, ____ right; ____ left.
Size: Consistency:

CERVIX AND UTERUS:
Bleeding or spotting
Inspection of cervix:
Erosion, ulceration, growths
Bimanual palpation of uterus, adnexae
Inguinal lymph nodes

For men the examination form is similar except that instead of breasts, cervix, and uterus, the genito-urinary organs are included:

PROSTATE: (If patient is 50 years or over.)
Size and consistency:
History of urinary difficulty:
TESTES: Size and uniformity:

For patients of low income who, in your opinion, are entitled to free service and cannot afford moderate consultation fees for the additional studies indicated by your examination, the diagnostic facilities of a Tumor Clinic should be available. In such instances, the patient could be referred to the clinic by appointment and the tests desired should be clearly indicated on a check list as suggested below. All test results obtained by the clinic should be reported directly and promptly to the examining physician.

SKIN: Biopsy, tissue section and report—check location of lesion. (Skin, lip, mouth, tongue)
GENERAL: Blood count, examination blood smear.
LUNGS: X-ray chest
Bronchoscopic with Papanicolaou smear of secretions.
GASTRIC: Gastric analysis with examination for cancer cells. Gastric x-ray.
RECTUM: Sigmoidoscopic examination with biopsy of lesion.
LYMPH NODE: Biopsy
GYN: Cervical Papanicolaou smear and biopsy
BREAST: Cytology of nipple secretion
G.U.: Prostatic smear for cancer cells
Blood acid phosphatase
X-ray of pelvic bones

We must constantly remind ourselves of several important observations:

All carcinomas of the cervix can be seen early by use of the vaginal speculum. Small breast lumps are easily palpated; any one may be cancer!

Seventy per cent of all malignant lesions of the colon and rectum are within reach of the examining finger or are visible through the sigmoidoscope. Digital rectal examination can detect ninety per cent of prostate cancers—the index finger is still the most useful tool in the diagnosis of early prostate cancer.

One chest x-ray per year is excellent and cheap insurance for every man and woman.

Follow through when suspicious evidence is present—don't wait, don't guess; it may mean cancer!

The experience of others demonstrates that we will find some cancer. Are we wasting our time and the patient's money if we find no cancer? Philosophically, we may answer that the labor of a thousand examinations is well spent if one life is saved by discovery of an early operable malignancy. However, equally important is the preventive aspect. Not infrequently conditions are discovered which may be precancerous or may later lead to cancer through continued irritation. These may be corrected. The non-malignant rectal polyp is an example. Furthermore, it is common experience in detection programs that abnormal conditions not related to neoplasia, but needing medical attention, are found in *fifty* to *sixty* per cent of so-called "well" individuals.

May I recommend to you this highly worthwhile program and urge that each of us actively cooperates under the guidance of our medical societies and participates not only in this important service of cancer control, but also in the contribution it makes to the general health of our communities and reduction of morbidity due to all the chronic diseases.

MULTILOCULAR CYST OF THE KIDNEY WITH MALIGNANT CHANGES

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Cystic disease of the kidney appears to be more frequent than texts would lead us to believe, especially if the volume of literature concerning this subject is in any way related to its incidence. The number of reported cases of renal cysts associated with malignancy is relatively few; however, their incidence is frequent enough to demand serious consideration in every case. This is the report of a case of cystic disease of the kidney associated with malignant changes.

The classification of renal cysts varies and there is no one universal classification. The basic criteria for classifying multilocular cysts is that reported by Truett H. Frazier, i.e., two or more chambers to one cyst, the separating walls of which are complete and the overall arrangement of which is dissimilar grossly at least to congenital polycystic kidney disease, solitary renal cysts and multiple cystic disease of the kidney. It is interesting to note that in none of the reported cases of multilocular cysts of the kidney was the diagnosis made preoperatively.

The incidence of solitary renal cysts, associated with malignancy, as reported by Rolnick, is 8%. Walsh reports an incidence of 7% malignancy in over 500 cases in the literature of renal cysts and also an additional 17 personal cases of renal cysts to be associated with malignancy. Whitmore, in 1936, reported a series of 42 cases of hemorrhagic cysts, of which, in 13, malignancy was present. Hepler has reported an incidence of 37 cases of malignancy in 249 cases of renal cysts. Lowsley and Curtis encountered one case of hypernephroma and one case of papillary carcinoma in their series of 19 cases of serous cysts of the kidney. Braasch and Hendrick encountered 11 cases of malignancy in 163 cases of renal cysts. The incidence of malignancy is higher in cysts which contain hemorrhagic fluid. It is reported that one-fourth of these cysts are associated with malignancy. The following types of tumors have been found in connection with renal cysts: Adenocarcinoma, carcinoma, sarcoma, Wilm's tumor, hemangioma, hypernephroma, papillary cyst adenoma.

The differential diagnosis of renal cyst and renal tumor is difficult, so that, in a large number of cases involving renal masses and space displacing lesions, the diagnosis can only be made definitely by surgical exploration. Considerable literature has appeared concerning the differential diagnosis of renal tumors and cysts, and the majority of writers are of the opinion as that of the author quoted below. One recent paper concerning this subject is by Prather, who, upon completing his study, is quoted as follows: "However, infallible guides for a consistently correct diagnosis without surgical exploration were not a resultant of this study". It would seem that there are only two methods for absolutely diagnosing renal cysts: 1. Surgical exploration; 2. Diagnostically tapping the cyst and injecting the latter with opaque solution, as reported by Doctors Ainsworth and Vest.

Case Report

Present Illness: On November 16, 1951, a white male, Mr. R.K.C., age 56, was admitted to Rockingham Memorial Hospital because of a visible mass in his left abdomen. No history was obtained of any weight loss, change in appetite or bowel habits. There was no history obtained of any urinary symptoms. The patient stated, upon admission, that he was incognizant of any difficulty until several days prior to admission when his local physician, upon routine physical examination, discovered an abdominal mass. His past history was negative, there being no change in his general health.

Family history revealed that he had one son who died at the age of seven—cause of death, brain tumor.

Physical examination on admission was negative with the exception of the following findings: Inspection revealed a mass in the left upper quadrant of the abdomen which extended into the left flank. On palpation, a firm, non-tender, movable, slightly irregular mass was found extending from the left costal margin downward to the level of the crest

*Read before the Mid-Atlantic Section of the American Urological Association in Roanoke, Va., March 12, 1953.

of the ilium. The mass extended medially into the epigastrium and laterally into the left flank and was approximately 20 c.m. in diameter.

Laboratory examinations, consisting of urinalysis, complete blood count, blood serology, N.P.N., blood sugar, were within normal limits.

Cystoscopy retrograde pyelograms were done, revealing the right kidney to be normal and there was no deformity of the calyces or obstruction of the right ureter. Examination of the left kidney with the left catheter in place, before injection of opaque solution, revealed considerable medial displacement of the ureter in a wide curve. Lateral films, taken at this time, revealed anterior displacement of the left ureter. The kidney pelvis and calyces of the left kidney appeared to be normal. Vertical films were done and there was normal displacement of both kidneys.

Gastrointestinal Series: A G.I. series revealed the stomach to be high, oblique in position and the appearance, along the greater curvature, of the upward pressure from some extrinsic pathology.

Barium enema with examination of the colon gave the impression that the descending portion was somewhat displaced laterally. The last portion of the transverse colon was displaced upward and medially. No organic lesion was demonstrated in the colon.

A preoperative diagnosis was made of: 1. Hypernephroma; 2. Renal cyst, and on November 27, 1951, a transperitoneal exploration of the left kidney was carried out, at which time a nephrectomy was performed.



Fig. 1. Excretory urogram which reveals normal pelves and calyces, right and left kidneys, with an opaque mass in the region of the left kidney displacing small and large bowel.



Fig. 2. Retrograde pyelogram, left, which reveals normal appearing renal pelvis and calyces. The ureter is displaced medially.

Pathological Report—Gross Description: Left kidney, weight 1094 grams. The kidney proper was normal in size, but there was a large cyst arising from the lower pole. A portion of the cyst extended upward behind the kidney and it was attached to the pedicle. The cyst contained one large cavity which was filled with a sero-hemorrhagic fluid and some brown pieces of clotted blood. There were many soft, wart-like lesions attached to the cyst lining. The cyst contained a number of lobules close to the kidney containing serous fluid. Above the lower pole, the kidney was grossly normal. The cortex measured 7-10 mm. in thickness. The capsule striped easily.



Fig. 3. A normal retrograde pyelogram, left, reveals left kidney to be in normal position with slight anterior displacement.



Fig. 4. Gastrointestinal series revealed the stomach to be high, oblique in position and the appearance, along the greater curvature, of upward pressure from some extrinsic pathology.



Fig. 5. Barium enema revealed no organic lesion in the colon; however, the descending portion is displaced laterally and the last portion of the transverse colon is displaced upward and medially.

Microscopic Examination—Left Kidney: A section from the lower pole of the kidney showed multiple alveoli with papillary formation. Most of these were lined by single layers of low columnar epithelium. The cells and their nuclei were uniform in size and appearance. There were other alveoli which were partially or completely filled with large columnar and polyhedral cells which had either pale or clear cystoplasm. Their nuclei were large and variable in size. They contained prominent nucleoli. Mitoses were fairly common among these larger cells. The papillae in the large cyst were composed of solid alveoli which were composed of these large cells. They had either clear or pale cystoplasm. There was moderate fibrosis and a focal infiltration of lymphocytes in the parenchyma of the tumor.

Pathological Diagnosis: 1. Multilocular cyst; 2. Papillary cyst adenocarcinoma—kidney left.

The postoperative course of the patient was uneventful and he was discharged from the hospital on the 10th postoperative day.

Discussion

The diagnosis of renal cyst or neoplasm is to be

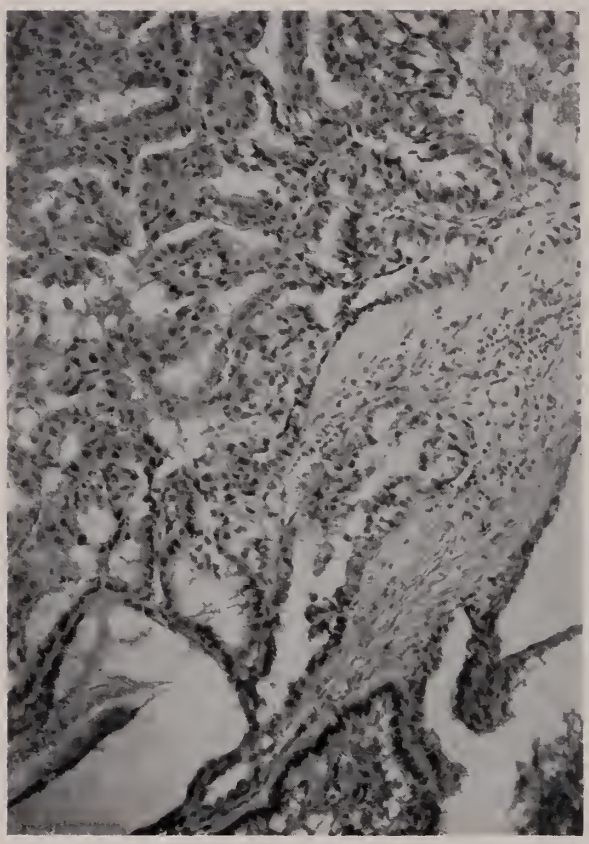


Fig. 6. A photo-micrograph taken from a section of the left renal cyst demonstrating papillary cyst adenocarcinoma, and early cyst formation with low columnar epithelium.

considered in any space-occupying lesion of the kidney. Many aids to the differential diagnosis of the above have been set forth in the literature; however, it appears that in the great majority of cases a definite diagnosis is not established until time of surgical exploration. Vest, Fish, Wheeler, and Dean have written concerning the needling of renal cysts. Since the differential diagnosis of renal cyst and tumor is difficult and since there is a reported incidence of 8% of malignancy associated with solitary renal cysts, the needling of such lesions is hazardous as is the needling of any questionable mass. With the present advances and safety factors in surgical technique, the needling of cysts is unnecessary. Surgical exploration offers a minimum risk and affords an accurate diagnosis at the time of examination allowing for proper management and treatment of the condition at hand, whether benign or malignant.

SUMMARY

A case of renal cyst, associated with malignancy, is reported. It is very important that the possibility of malignancy, associated with renal cysts, be kept foremost in mind in such cases and that, if at all feasible, a proper diagnosis be made and verified by surgical exploration and treatment as indicated.

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National Bank Building.

A WEAPON FOR THE ERADICATION OF PULMONARY TUBERCULOSIS—THE ROUTINE SPUTUM TEST BY THE LOCAL MEDICAL DOCTOR*

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and
Paxton P. Powers, M.D.,
Richmond, Virginia

According to current trends in age distribution, the last stronghold of tuberculosis will be in the aged. The official agencies which deal with the epidemiological aspects of this problem will still accomplish a great deal, but the older group is not easily approached by mass measures, so the family doctor becomes the key figure and the simple sputum examination becomes his most obvious weapon. It is he who first sees a case of pulmonary tuberculosis, and it is he who will have the final disposition, whether he be internist, surgeon or general practitioner.

Source of Material

The author disclaims any original thinking. Although much of this material has been published, the development of this presentation draws heavily on personal contacts, and as such it is presented.

(a) From a municipal tuberculosis control officer came the fact that the private physician is still the most prolific discoverer of tuberculosis. Despite our progress in mass measures, every thoughtful control officer realizes that the stimulation of the private physician to look for tuberculosis is still the key to tuberculosis control.

(b) From a physician specializing in pulmonary diseases there came the repeated story of the diagnostic problem in the aged. Many examinations were performed and much helpful information obtained, but the final diagnosis was made by multiple examinations of the sputum.

(c) From the dean of a school of public health came the concept of the organized public health team, and the idea of beginning to think less about "control" and more about "eradication" of tuberculosis.

(d) A physician with wide experience in some of the nation's foremost sanitoria called attention to the changing problems of hospitalization produced by the lessening of tuberculosis in the young, and its relative increase as a disease of the aged. From him also were obtained the reports of how frequently families rebelled at the return of a trained, chronic positive sputum case into the home, and depended upon the decision of the family physician in accepting or rejecting the aged patient.

(e) A state tuberculosis control physician stated that the sputum examination was regarded as his most useful weapon, and how to encourage the private physician to make greater use of the sputum test was the prime problem facing his department.

(f) From personal experiences come the data regarding the usefulness as well as the limitations of mass x-ray surveys, and hospital admission chest x-rays.

The Public Health Team

Public health now requires a complex combination of governmental and other agencies, professional and non-professional personnel, paid and volunteer workers. The private physician must recognize that in public health, he is not the final expert but only a member, even though an important one, of a highly specialized team. No one realizes better than the trained public health physician how essential it is to have a strong, alert and cooperative medical profession in the community to which he is assigned.

As the public health team turns its attention more towards the aged, it is to be expected that they will obtain better results than at the present time, but will still depend for the most part on the enlightened and persistent efforts of the family doctor.

The Chest X-ray Survey

The mass chest x-ray survey has been an important step forward in the control of tuberculosis, but the aged are not organized into groups and are difficult to reach by mass methods. Let's assume, however, that the public health team is able to accom-

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*Read before the annual meeting of the Medical Society of Virginia, in Richmond, September 28-October 1, 1952.

plish the impossible and to have large numbers of the aged x-rayed. The reader of the films is then faced with a problem. Most of the aged demonstrate emphysema, fibrosis, and pleural changes. A considerable amount of tuberculosis can be obscured by these so-called senile changes. If the reader is liberal and classifies these x-rays as normal for the age, the survey fails of its objective because too many cases are missed. If the reader is strict, practically all the aged will have to undergo extensive investigation. The survey will cease to be a survey and become a periodic extensive investigation of the chests of a very large percentage of the aged, which is certainly not a very realistic approach to the problem.

The Tuberculin Test

As the volume of tuberculous infection decreases, the tuberculin test will become a more valuable agent in individual diagnostic problems, and will assume increased importance in surveys of young individuals. In the final stages of eradication it may become a mass procedure in the aged. Earlier, however, it will not be a particularly valuable agent, because the aged will retain a high rate of tuberculinization. In addition, the difficulty of reaching large masses of the aged, as is the case with the relatively simple mass x-ray survey, is greatly increased by the inherent difficulties of the tuberculin test, requiring multiple personal contacts of those surveyed with a physician.

The Hospital Admission Chest X-ray

Since a high percentage of the aged pass through the general hospital at some time, this will be a fruitful field. Having been associated with a hospital control program more advanced than average, it is obvious that there is a weakness which prevents it from being the final weapon of eradication. Large numbers of the aged will have only short hospital admissions. As mentioned under mass x-ray surveys, a high percentage of senile changes will be discovered. It will be economically impossible to keep these patients in the hospital for extensive studies and examinations. They will be returned to the family doctor with recommendations for prolonged follow-up examination, the simplest and cheapest being the sputum test.

The obvious complement to the hospital admission chest x-ray should be the hospital admission examination of the sputum for tubercle bacilli in aged patients.

The Pulmonary Disease Specialist

As our aged increase, the number of cases referred to the chest specialist will increase. These specialists are making tremendous strides in diagnosis, but their most valuable tool is still the sputum test; not a perfunctory collection of one or two specimens but the careful collection of 10-20 specimens for smear, culture and guinea pig inoculation.

The weakness of depending upon the chest specialist is the fact that patients do not reach them until chest disease is strongly suspected by the family doctor. Tuberculosis eradication needs a method of reaching the aged in whom chest disease is not suspected. It requires no special training to request multiple sputum examinations.

The Tuberculosis Hospital

The tuberculosis hospital of the future will have to change its objectives. Few of the aged attain arrest of their disease. For some of these patients a pleasant, less crowded hospital with a minimum of regimentation will be necessary, as they may have to stay many years. As the aged do not tolerate surgery well, the thoracic surgeon will become less dominant, and the internist practicing a high type of geriatric medicine will become the more important physician.

For the majority of these oldsters, the hospital should have a different function. It should accept the responsibility of convincing these difficult patients of their infectiousness, the potential danger to their families, and the necessity for taking proper precautions for the balance of their lives. When this is accomplished, they will be happier at home leading a life of limited and sometimes surprising productiveness.

It will be the responsibility of the family doctor to persuade the relatives to accept these patients back into their homes. Many of these families would be happy for the hospital to assume the care of these semi-invalids for the rest of their lives, but this would entail the doubling or trebling of the number of beds now devoted to the care of tuberculosis and should be neither necessary nor desirable, even if feasible. The public health team can play an important part in this problem of returning the positive sputum active case into the home, but the harassed family will accept the advice of the family doctor above all others due to his continuing intimate contact both with the patients and with the family

group, which affords opportunity both to enforce reasonable restriction and to allay unreasonable anxiety.

There is a need for more beds and a need for more adequate staffing of all tuberculosis hospitals, but these cannot completely solve the problem, and many of these aged patients will have to return to the community and become the responsibiilty of the family doctor who made the original diagnosis and referred him for specialist care and training.

Vaccination

Many public health physicians feel that no respiratory disease can be eradicated without a suitable vaccine. Tuberculosis has many features which set it apart, the most pertinent being the fact that contagiousness is low early in the course. If the disease is thought of, the diagnosis can be made and precautions taken before the case becomes a serious infectious hazard. The opposite is true with most of the acute epidemics of respiratory diseases.

Even the most enthusiastic advocates of vaccination for tuberculosis agree that the tuberculosis vaccines in use today are inferior to the vaccines used in the standard immunization procedures for other diseases, but there are encouraging reports along with the occasional catastrophes which are always associated with new immunization procedures. Our final estimate will have to await the results of mass experiments now under way.

The Family Doctor

The relationship which exists between the physician and his patients is the closest and finest in the profession. He is more a friend, indeed he is usually considered as a part of the family group and shares its joys and sorrows. From the scientific standpoint he is also more than the physician, he is the family philosopher whose council is sought on all manner of things and whose advice is usually accepted and followed. Because of this relationship, his contact with the older members of the family is frequent. He knows that all of them show signs of degenerative changes in the lungs as they do elsewhere, and that these changes lead to diminished resistance and the greater likelihood of a flareup of activity in lesions previously latent. They almost all have more or less cough with expectoration of which they may not even be aware because they have become so used to it.

It is obviously impossible to refer all aged patients to chest specialists for complete studies and the limitations of mass x-ray have been discussed. The solution then becomes the extensive use of sputum examinations, either in the doctor's office or at one of the many laboratories, either private or operated by municipal or state health departments, which are easily available.

The submission of one or two specimens may be enough to confirm a diagnosis which has been established clinically, but any patient who has reached the point where cough with expectoration persists chronically should have sputum examinations at intervals throughout life. They should be trained to collect specimens after forced cough on first awakening in the morning, and in cases where the index of suspicion is high and the sputum negative, to submit the expectorate for the whole 24-hour period for the study of concentrates by special techniques, such as culture and animal inoculation.

At first glance the above recommendations may seem to be excessive, but when it is realized that at post-mortem examinations in this age group, evidence of old pulmonary tuberculosis which might act as a latent focus is almost invariably found, and that in at least 10% open cavitation and activity can be demonstrated, the rationale becomes clear and the routine and repeated examination of sputum assumes an importance to the patient, his family, and his community, which is not exceeded by any other investigative procedure presently available to the good family doctor.

Case Report

An elderly white man had had a slowly fluctuating moderately advanced pulmonary lesion for fifteen years. During this period a diagnosis of active tuberculosis was not made and no precautions were taken because the man insisted that he had no cough or expectoration. Early in 1952 an episode of upper respiratory disease made the coughing and expectoration obvious. Multiple sputum specimens were positive for acid-fast bacilli.

On arrival at the hospital the transient respiratory infection had cleared and the man again denied cough or expectoration. The x-ray file forwarded on the patient revealed films at 1-2 years' intervals over the 15-year period. The chest had apparently been active prior to 1940, demonstrated a slow and almost complete clearing from 1940 to 1945, pro-

gressed again from 1945 to 1948, and had the x-ray appearance of a stable inactive lesion from 1949 to 1952.

In spite of the fact that he denied cough and expectoration, it was found in the hospital that he was constantly coughing and expectorating. It had become so much a part of his life that he was totally unaware of it and would take no precautions; hence, he was both a bad example and a nuisance to the other patients and a menace to the personnel. Numerous complaints were received, and numerous interviews were necessary before his awareness was established and good habits inculcated which would make it safe for him to return to his home and family.

COMMENT

When this paper was presented, the comment was made that it was difficult to present this problem statistically. Since then preliminary reports of a cooperative sputum study on patients with suspicious x-ray lesions in a large urban area have become available. It required less than four sputum examinations to diagnose 25% of their cases, 5-12 specimens to diagnose an additional 50%; the remaining 25% were not diagnosed until more than 12 specimens had been obtained. In some cases it required repeated examinations extending over a period of three years before the positive sputum was obtained.

SUMMARY

The trend of tuberculosis to become a disease of the aged has been noted. The effect on our present agencies and methods has been discussed and their effectiveness in meeting the changed situation has been estimated. The conclusion is reached that, while these measures are valuable for control, the eradication of tuberculosis will depend largely upon the practicing physician performing regular sputum examinations for life on all patients who have reached the age of chronic cough and expectoration.

Chronic Ulcerative Colitis May Predispose to Cancer.

Chronic ulcerative colitis may predispose to cancer of the colon. Because of the very poor prognosis of such cancers, prophylactic removal of the colon is indicated in many cases, in the opinion of Drs. Elden C. Weckesser and Austin B. Chinn, Cleveland.

Writing in the July 4, J.A.M.A., the doctors stated that 118 patients with ulcerative colitis were admitted to the University Hospitals of Cleveland between 1932 and 1950. There were four cases of carcinoma of the colon (3.4 per cent) in this group. The four patients, ranging in age from 22 to 35 years, died within 17 months following surgery; average duration of symptoms prior to diagnosis of the malignant condition was 10.2 years.

"The very short survival following removal of established carcinoma of the colon in patients with ulcerative colitis constitutes a serious problem," the doctors stated. "It seems, from our experience as well as that of others, that persons with severe, long-standing ulcerative colitis are susceptible to malignant change. Carcinoma of the colon complicating ulcerative colitis has a very poor prognosis.

"At the present it is our opinion that persons with long-standing, severe ulcerative colitis who require ileostomy and those with polyposis [polyps on the colon] should have prophylactic colectomy."

(In an ileostomy, a surgical opening is made in the small intestine and the intestine brought through an incision in the abdominal wall to make a substitute outlet for bowel material. In colectomy, the colon is removed after or during an ileostomy).

The doctors are associated with the department of surgery and medicine, Western Reserve University, and the University Hospitals of Cleveland.

THE THREAT OF SUICIDE*

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The threat of suicide is a problem that doctors, in general, and psychiatrists, in particular, are faced with almost daily and, perhaps, no single problem in psychiatric practice gives us more sleepless nights.

As in most other problems in psychiatry, dealing as it does with individuals in the truest sense of the word, it is difficult, if not impossible, to resort to generalizations or rule-of-thumb. Scarcely a day goes by but that one or more patients in my practice talk about suicide or mention it as a possible way out of their difficulties. Some of these I take seriously, but most I do not—and I am not sure that I always know why I react as I do. It seems clear to me, however, that we could not possibly lock up and put under suicidal precautions every patient who has any suicidal thoughts—spoken or unspoken—much less every person at large in the community who, at one time or another, has such thoughts. In fact, most people, including most of those in this room, have probably at some time more or less seriously considered suicide.

As Nietzsche once remarked, "The thought of suicide helps us through many a bad night."

Suicide is not universally abhorred.

Schopenhauer reminds us that "Neither in the Old, nor in the New Testament is there to be found any prohibition or positive disapproval of it," and further remarks, "It is quite obvious there is nothing in the world to which every man has a more unassailable right than to his own life and person."

Pliny states, "Life is not so desirable a thing as to be protracted at any cost. Among the blessings which Nature gives to man, there is none greater than an opportune death and the best of it is that every man can avail himself of it."

And Seneca, "As I choose the ship in which I will sail, and the house I will inhabit, so I will choose the death by which I will leave life. If life pleases you, live. If not, you have the right to return whence you came."

In many ancient civilizations, in some primitive cultures, and in modern Japan, suicide under certain conditions is not only condoned, but expected.

Be that as it may, in our modern society, suicide is forbidden by the State and considered a sin by the Church. Under British Law, an attempt at suicide is a punishable offense as it is in four states in the Union. We, as doctors, are charged with the responsibility of maintaining and prolonging life, and where suicide is the result of, or an expression of, mental illness, it is definitely our concern.

I would like to question, however, the idea that suicide is always evidence of insanity; even so-called "temporary insanity", or even, necessarily, of a personality abberation that would come under the heading of neurosis or psychopathy.

The *British Medical Journal* states editorially, "The vast majority of suicides are not, in any sense of the word, insane, unless the act of suicide itself defines insanity which, by the present law, it clearly does not."

To quote two other British opinions: Tuke states, "It cannot be admitted for a moment that the suicidal act, taken alone, is any sign of insanity."

And Henry Maudsley says, "Just as madness may exist without any idea of suicide, so suicide may take place, the effect of a full and free determination formed by a healthy mind and executed with the coolness and complete system of precautions of the most perfect logic."

Perhaps the most sensible coroner's jury verdict on record, following a suicide in Mississippi, stated that the deceased came to his death by his own hand, "for reasons best known to himself."

Certainly, many suicides occur in people who have not up to that moment, given any evidence of mental disorder and in which the act is obviously the consequence of careful consideration and logical judgment.

An interesting paradox in such cases is the willingness with which friends and relatives of the suicide accept the idea that he was mentally deranged, although, under all other circumstances, they would resist such a suggestion to the utmost. The "stigma" of insanity seems to be preferable to the painful

*Presented at Spring Meeting of Neuro-Psychiatric Society of Virginia, at Westbrook Sanatorium, Richmond, Virginia, April 1, 1953.

humiliation or sense of guilt, in admitting that a member of one's own family could choose to kill himself if in his right mind.

Aside from these considerations, death from suicide is still something to be conjured with. In the United States alone, the number of deaths from suicide, yearly, has reached 22,000. In 1947, the rate of suicide was 11-2/10ths deaths per 100,000 population as compared to 23 deaths per 100,000 population due to motor vehicle accidents. In that year, suicide stood third in order of frequency in cause of death by violence in the United States. When one adds the large number of attempted suicides to those which are successful, the significance of the problem is even more apparent. Furthermore, many suicides are concealed by the family when possible and are attributed to accidental death. In all causes of death, suicide stands ninth. It is nearly twice as common as homicide, and accounts for more deaths than the five most common communicable diseases.

The suicide rate increases with advancing years. Children, however, do occasionally commit suicide and, beginning with adolescence, each decade shows a steady and consistent rise. Statistics show that more than half of all suicides occur in people 45 years or older. Annually, three times as many men as women commit suicide, but twice as many women make suicidal gestures or unsuccessful attempts. Men more commonly utilize more aggressive means of achieving their ends, such as shooting or jumping off buildings. Women are apt to seek more passive measures, such as taking poison or gas.

We should also mention in passing the various forms of chronic and non-obvious suicidal maneuvers, such as deliberate exposure to illness, accident proneness, anorexia, some forms of alcoholism, etc.

In addition to the above-mentioned fallacy that suicide is clear evidence of insanity, there are many other popular misconceptions, such as the adage, "Those who talk about suicide never do it." It is also untrue that one who has made an unsuccessful suicide attempt will not repeat the attempt, although this may be true in the individual case. Perhaps the most common misconceptions are the "common-sense" explanations offered so glibly by family, physician and the press, such as "despondent over ill health", "worry over finances", etc. Statistics show that suicide is less frequent in times of economic depression and in time of war and national peril. It is also relatively rare among those with chronic, painful and even fatal diseases.

A perhaps somewhat common fallacy among doctors and psychiatrists, as well as the general public, is to think of suicide primarily in terms of depression and, still worse, in terms of certain diagnostic categories, such as involutional melancholia or manic-depressive psychosis.

Zilboorg and others, particularly in more recent literature, have pointed out the relative frequency of suicide in schizophrenia, various neuroses (particularly the obsessive-compulsive) and the relatively large role of alcoholism and other toxic disorders.

Hendin analyzed 100 cases of suicidal attempt at Bellevue Psychiatric Hospital in 1948. While 40 out of the 100 patients were classified as having depression of moderate to severe degree, he points out that depression is not a diagnosis in itself but an affective symptom which cuts across all diagnostic categories. Seventeen of the 100 cases were described as neurosis with depression; nine as reactive depression; six as having neurotic character disorders; nine in the involutional psychosis group; and fourteen in the schizophrenic group. Ten were classified as miscellaneous, and alcoholism played a varying role in all of the diagnostic groupings, particularly in the neurotic and reactive depressions.

The power of suggestion as a precipitating factor in suicidal attempts has long been observed. A disturbed or desperate person is more apt to take action if he hears or reads of someone else doing it. Epidemics of suicide occur. In the same way, suicides "run in families" and may become the traditional mode of reacting to stressful situations.

Another dynamic factor in suicide is, of course, the familiar turning inward of aggression or hostility. In other words, the person hates and would like to kill someone else but turns these impulses against himself instead. In many cases the act or attempt is obviously a way of trying to hurt, get even with, or punish someone else.

In certain people the idea of the inevitability of death, yet the uncertainty as to time, place or method, is unbearable, so they take matters in their own hands.

Ignoring for the moment those occurring in so-called normal people as the result of logical conclusion to end one's life, suicidal attempts might be classified as the impulsive and the compulsive. In the former would fall the hysterics, psychopaths, alcoholics, delirious, reactive depressions and neurotic depressions. In the latter would fall most of

the so-called psychotic depressives, schizophrenics and obsessive-compulsive neurotics.

The impulsive group are, of course, harder to predict, and for that reason, hard to prevent. They are also less apt to succeed. In the case of so-called psychopaths and hysterics, they are much more apt to make suicidal gestures or threats for some obvious purpose and, if a fatality ensues, it is often inadvertent.

The compulsive group are difficult to evaluate and hard to prevent because of the strong motivation, careful planning, ingenuity, secretiveness, and singleness of purpose.

Zilboorg states in this regard, "The suicidal drive is not dependent on or derived from any traditional clinical entity found in present day psychiatric nosology. It is to be viewed rather as a reaction of a developmental nature which is universal and common to the mentally sick of all types and probably, also, to many so-called normal persons. The very universality of the reaction, and particularly some of its outstanding characteristics, leads one to suspect that one may be dealing with an archaic form of man's response to his various inner conflicts."

Perhaps, for practical considerations, we might divide the problem into the following categories:

First, suicidal thoughts or ideas. As indicated above, these phenomena are extremely common in the so-called normal as well as disturbed people, and as long as they remain transient and not too frequently recurring, do not justify further consideration. (It is, perhaps, from further knowledge of such thoughts and in what context they occur, that we might learn more about the motivations of actual suicide or serious attempt).

Secondly, suicidal preoccupation. When such thoughts become the subject of more or less constant preoccupations or obsessions, particularly if occurring in an affective setting of depression, it is considered one of the more serious warnings of impending suicide; however, such preoccupations or obsessions are relatively common in obsessive neurotics and here, perhaps, it has little more significance than any other obsession, such as with profane language, germs, etc. It is in this area that all of our clinical acumen is called on in determining when preoccupations or ruminations with suicide are dangerous and when they are not. Obviously, all the other factors known about an individual case have to be taken into consideration in assessing this point.

The third group may be referred to as suicidal gestures; and, fourth, suicidal attempts.

It is not always easy to differentiate a suicidal gesture from the suicidal attempt. When a given act that could result in death fails to do so, we are apt to interpret it as a gesture. The differentiating point is, of course, the intent of the patient; that is, whether he really meant to die or merely to give that impression for some purpose. Obviously, patients will not always confess that it was only a gesture because of the resulting loss of face or because such an admission would defeat the purpose they had in mind. In the same way, a patient who made an actual suicidal attempt which miscarried might attempt to dismiss the whole matter as only a gesture in order to allay suspicion and leave him free to make another try. Suicidal gestures, however, are much more common than suicidal attempts and, undoubtedly, many such intended gestures accidentally end in fatalities.

In studying suicidal attempt cases in the Westchester Division of the New York Hospital in 1933, Wall reported that there were six signs occurring in mental patients which were warnings of possible suicide:

1. Depression with ideas of guilt and self-depreciation and self-accusation, associated with tension and agitation.
2. Severe hypochondriasis.
3. Insomnia, with great concern about it.
4. Fear of losing control, of hurting others or oneself.
5. Previous attempts at suicide, and
6. Suicidal preoccupation and talk.

Suicidal threats or gestures are most often forms of acted out communication or protest. These may occur as acts of spite or revenge aimed at some specific person—a parent, spouse, lover, or doctor. They may be attempts to gain attention or to get themselves heard or into treatment. Often families will not take a person seriously or permit them to see a psychiatrist until a suicidal threat or act forces the issue.

Such a threat may also be used on a psychiatrist while in therapy situations to keep him awake and on his toes. If such communications are heard accurately and responded to appropriately, that is all that is necessary.

It is my sincere belief that very few will commit suicide who are in adequate communication with at

least one significant person. I would include in this broad statement all types of depression, schizophrenia, neuroses, psychopaths and normal people. It is usually when a person sees no other way out, when he feels isolated, unloved, unheard, and unresponded to, that he takes the final step. It is often the function of the psychiatrist and those in related positions to provide just such a relationship and chance for communication. To underestimate and fail the patient asking for such by simply locking him up, or shutting him up with electro-shock, we may goad him into suicide, feeling that the last door, save one, has been closed to him.

I, personally, have never had a suicide or an attempt occur in a patient with whom I felt I had a good therapeutic relationship. When this is not present, or when a depressed or schizophrenic patient abruptly breaks off, claims to be through treatment, or changes his attitude such as becoming very cheerful or uncommunicative, I am alarmed.

The prevention of suicide by restraint or shock is in most cases an admission of our own inadequacy or unwillingness to walk through the valley of the shadow of death with a patient. Yet, it is well to recognize our inadequacy and unwillingness when they exist and save or prolong a life for the time being. He may come to think better of it.

It is doubtful that suicide can be prevented or long postponed by any reasonable or humane restraint in a person who is really determined to die. He may be diverted from his course by lobotomy, but this is, to my mind, the substitution of a form of semi-homicide for which we, not the patient, bear the full responsibility. In any case, lobotomy ends—almost as effectively as suicide itself, any chance of solution of the problem as far as the patient is concerned.

Granted the limitations of our present knowledge, techniques, numbers and skill, electro-shock does have a place in the prevention of suicide and should not be withheld if the threat seems imminent and all efforts at therapy are to no avail. In my opinion, it is used much too casually. It should be reserved for emergencies and is, at best, a symptomatic and empirical treatment.

Restraint to whatever degree necessary is certainly justified and expedient in the acute delirious toxic states and in acute panics. Inadvertent suicide is always to be kept in mind and guarded against in these cases.

The management of the threat of suicide boils down, as in most other medical problems, to the clinical evaluation of the individual case. If we are too rigid and stringent, we do the patient, ourselves and our art, an injustice. If we are too lax or careless, we also fail in our responsibility to the patient, his family, and society. It does not seem reasonable to hope that we can prevent all suicide, and if we took the prevention of suicide as our primary aim, we would undoubtedly do more harm than good. Our goal should perhaps be to help more people to live, and to live more abundantly.

PROGRAM

106th MEETING

THE MEDICAL SOCIETY OF VIRGINIA

Hotel Roanoke

Roanoke

October 18, 19, 20 and 21, 1953

Sunday October 18

2:00 P.M.

Council

7:00 P.M.

House of Delegates—Dinner Meeting

Monday Morning, October 19

9:30 A.M.

Section A—Ballroom

Kinloch Nelson, M.D., Richmond, Presiding

9:30 A.M.—Virginia's Health Rating—George Cooper, Jr., M.D., Charlottesville

When compared with the other states, Virginia's rank in health matters is in many instances below her wealth and resources rank. The degree of discrepancy and possible explanations in various health fields will be presented.

9:45 A.M.—Clinical Problems Created By Antibiotic Therapy—William H. Harris, Jr., M.D., Richmond

This paper deals with certain important problems created by the administration of antibiotics for infectious disease. Topics to be discussed include: superinfections of bacterial and monilial origin, bacterial resistance to antibiotics, antibiotic antagonism and synergism, colitis complicating antibiotic therapy, and penicillin anaphylaxis.

10:10 A.M.

Recess to Visit Exhibits

10:30 A.M.—Report of 700 Cases of Irritable Colon in Private Practice—Robert M. Miskimon, M.D., Richmond

The factors learned from the care of this condition in private practice are discussed. There is reference to previous diagnosis and to previous therapy. There is discussion of the irritable colon personality and mention of its existence along with other gastrointestinal disease.

10:50 A.M.—Recent Therapeutic Agents in the Treatment of Anemias, with Special Reference to Vitamin B-12—Thomas W. Green, M.D., Richlands

Several important therapeutic agents, including Vitamin B-12, Folic Acid, Intravenous Saccharated Iron, etc., have been introduced in recent years in the treatment of anemias. A review of their use in general practice seems indicated.

11:10 A.M.—A General Hospital Admission X-ray Program—Alfred L. Kruger, M.D., Philip Parsons, M.D., and Joe Lee Frank, M.D., Norfolk

A Photofluorograph, 70mm. X-Ray Unit, was installed in Norfolk General Hospital in November, 1947, to take chest x-rays of every admission into the hospital as well as of every new clinic patient. Many unsuspected pulmonary conditions have been found.

11:25 A.M.—The Virginia State Health Department's Legislative Program for the Irradication of Tuberculosis—Mack I. Shanholtz, M.D., Commissioner, and William F. Wagner, M.D., Director, Division of TB Control, Virginia State Department of Health.

Active participation by general practitioners and internists is paramount to success of an all-out Tuberculosis irradication campaign in Virginia. Contribution can be augmented tremendously when appropriate facilities are made available locally. Functions of proposed regional chest clinic, as well as need for more sanatorium beds, are reviewed.

Section B—Parlors D-E-F

Snowden C. Hall, M.D., Danville, Presiding

9:30 A.M.—The Modern Trend in the Surgical Treatment of Frontal Sinusitis—George N. Thrift, M.D., Richmond

Trephine opening of a frontal sinus involved in empyema with irrigation, supported by antibiotic therapy avoids radical sinus surgery. Sixteen cases will be presented by slides.

9:50 A.M.—The General Practitioner's Role in the Prevention of Blindness—E. G. Gill,

M.D., Roanoke

Many people's eye sight could be saved if it was pointed out to the general practitioners the early signs and symptoms of conditions which cause blindness.

10:10 A.M.
Recess to Visit Exhibits

10:30 A.M.—THE TREATMENT OF HYDROCEPHALUS—Charles E. Troland, M.D., Richmond

Recent advances in the treatment of the various types of hydrocephalus are discussed. The importance of early diagnosis and treatment is stressed with emphasis on the probability of salvaging many of these patients.

10:50 A.M.—MANAGEMENT OF CONGENITAL HIP DISLOCATION WITH HOUR GLASS CAPSULE CONSTRICTION—Joseph L. Platt, M.D., Lynchburg

Discussion and presentation of cases having congenital hip dislocation with hourglass constriction of the capsule: diodrast arthrography for diagnosis and Colonna Arthroplasty for treatment.

11:10 A.M.—SALIVARY GLAND TUMORS—A CLINICO-PATHOLOGIC STUDY OF 100 CASES—John L. Thornton, M.D., Gordon R. Hennigar, M.D., and Saul Kay, M.D., Richmond

A study which reviews the cases of salivary gland tumors at the Medical College of Virginia Hospitals for the past twenty years. Both clinical and pathological characteristics of the tumors are reviewed. A classification is presented. An attempt is made to correlate the histologic picture with the clinical course.

11:30 A.M.—MASSIVE HEMORRHAGE IN PEPTIC ULCER—M. K. King, M.D., Norfolk

Severe hemorrhage from peptic ulcer should be considered primarily as a surgical rather than a medical problem. With adequate blood replacement early operation can be safely carried out with a greatly reduced mortality.

Monday Afternoon, October 19
2:00 P.M.

Section A—Ballroom

SYMPOSIUM ON DIAGNOSIS OF ARTHRITIS AND RELATED DISORDERS

Alexander McCausland, M.D., Roanoke, *Chairman*

CLASSIFICATION—Alexander McCausland, M.D.

RHEUMATOID ARTHRITIS—Elam C. Toone, M.D., Richmond

FIBROCYTIS AND MISCELLANEOUS FORMS OF ARTHRITIS—Oscar Swineford, Jr., M.D., Charlottesville

GOUT—James C. Respess, M.D., Charlottesville

DEGENERATIVE ARTHRITIS—Alexander McCausland, M.D.

DISCUSSION

Section B—Parlors D-E-F

SYMPOSIUM ON ELECTROLYTES

Sponsored by the Virginia Society for Pathology and Laboratory Medicine

Arnold J. Rawson, M.D., Norfolk, *Chairman*

2:00 P.M.—ELECTROLYTE BALANCE AND DISTRIBUTION—Nelson F. Young, Ph. D., Richmond

2:20 P.M.—CAUSES AND TYPES OF ELECTROLYTE IMBALANCE—Edward D. Levy, M.D., Norfolk

2:40 P.M.—SOME ASPECTS OF ELECTROLYTE IMBALANCE IN MEDICAL PRACTICE—William Parson, M.D., Charlottesville

3:00 P.M.—SOME ASPECTS OF ELECTROLYTE IMBALANCE IN SURGICAL PRACTICE—Stanley M. Levenson, M.D., Richmond

3:20 P.M.—Discussion

General Session—Ballroom

3:30 P.M.—DISCUSSION ON PROBLEMS OF BLUE CROSS-BLUE SHIELD

Monday Evening, October 19
8:30 P.M.
Ballroom

Call to Order—David S. Garner, M.D., Chairman, Committee on Arrangements

Invocation

Awarding of Certificates to Members in "Fifty Year Club"

Presentation of Thomas H. Hunter, M.D., Dean, School of Medicine, University of Virginia, Charlottesville

Memorial Hour—William R. Whitman, M.D., Chairman, Membership Committee

Address by President—James L. Hamner, M.D., Mannboro

Presentation of President-Elect of the American Medical Association

Address by Dr. H. Sherman Oberly, President, Roanoke College

Tuesday Morning, October 20
9:30 A.M.

Section A—Ballroom

CARDIOLOGY SYMPOSIUM

William B. Porter, M.D., Richmond, *Chairman*

9:30 A.M.—Rheumatic Fever—Carolyn M. McCue, M.D., Richmond

9:40 A.M.—Congenital Heart Disease—Lewis H. Bosher, Jr., M.D., Richmond

9:50 A.M.—Newer Therapeutic Agents—George B. Craddock, M.D., Lynchburg

10:10 A.M.
Recess to Visit Exhibits

10:30 A.M.—Coronary Artery Disease—Armistead Williams, M.D., Clifton Forge

10:40 A.M.—Cardiac Emergencies—Paul D. Camp, M.D., Richmond

10:50 A.M.—Pitfalls in Diagnosis—R. Earle Glendy, M.D., Roanoke

11:00 A.M.—Guest Speaker—Robert L. King, M.D., Seattle, Washington, President of American Heart Association—Rheumatic Fever and Heart Disease

11:30 A.M. Panel Discussion of Cardiac Problems—William B. Porter, M.D., Chairman; Members: Robert L. King, M.D., Carolyn M. McCue, M.D., Lewis H. Bosher, Jr., M.D., George B. Craddock, M.D., Paul D. Camp, M.D., Armistead Williams, M.D., and R. Earle Glendy, M.D.

Section B—Parlors D-E-F

OBSTETRICAL AND GYNECOLOGICAL SYMPOSIUM

John R. Kight, M.D., Norfolk, *Chairman*

9:30 A.M.—Management of Surgical Complications in Pregnancy—Eric C. Schelin, M.D., Richmond

Surgical complications are common in the normal pregnant woman. With an accurate diagnosis, indicated surgical corrections should proceed with dispatch and can safely be carried out.

9:50 A.M.—Emergencies in the Newborn—McLemore Birdsong, M.D., and George Cooper, M.D., Charlottesville

The importance of early physical examinations and symptoms in newborn infants for early diagnosis of conditions which by immediate medical and surgical care can be remedied or cured and the infants saved are pointed out in this paper.

10:10 A.M.
Recess to Visit Exhibits

10:30 A.M.—Guest Speaker—Charles Hampton Mauzy, Jr., M.D., Professor of Obstetrics and Gynecology, Bowman Gray School of Medicine, Winston-Salem, North Carolina—Obstetrics Now and Twenty-Five Years Ago

11:00 A.M.—Panel Discussion

Pruritus Vulvae—Chester L. Riley, M.D., Winchester

Cervicitis—Henry C. Spalding, M.D., Richmond

Retroversion of the Uterus—J. M. Nokes, M.D., Charlottesville

Endometriosis—Eugene S. Groseclose, M.D., Lynchburg

Report of Maternal Health Committee—H. Hudnall Ware, M.D., Chairman

Tuesday Afternoon, October 20
2:00 P.M.

Section A—Ballroom

REHABILITATION SYMPOSIUM

Roy M. Hoover, M.D., Roanoke, Presiding

2:00 P.M.—Guest Speaker—Charles S. Wise, M.D., Professor of Physical Medicine and Rehabilitation, George Washington University School of Medicine, Washington, D. C.—The Rehabilitation Problem

2:30 P.M.—Rehabilitation of Neurological Disorders—Walter O. Klingman, M.D., Charlottesville

3:00 P.M.—Emotional Significance of Severe Trauma—Benedict Nagler, M.D., Washington, D. C.

3:20 P.M.—Disability Control—Herbert W. Park, M.D., Richmond

3:35 P.M.—MAINTENANCE AND RESTORATION OF FUNCTION IN SEVERE TRAUMA—George A. Duncan, M.D., Norfolk

3:50 P.M.—PANEL DISCUSSION ON REHABILITATION OF VARIOUS MEDICAL CONDITIONS AND GENERAL PROBLEMS OF REHABILITATION
A. Ray Dawson, M.D., Richmond, Moderator

HEART DISEASE—Reno R. Porter, M.D., Richmond

DIABETES—William R. Jordan, M.D., Richmond

GERIATRICS—John P. Lynch, M.D., Richmond

PULMONARY—John L. Guerrant, M.D., Charlottesville

AVAILABLE FACILITIES—Guest Speaker
—Mr. Corbett Reedy, Supervisor, Vocational Rehabilitation, State Board of Education, Commonwealth of Virginia, Richmond

Section B—Parlors D-E-F

SYMPOSIUM ON LYMPHOMAS AND LEUKEMIAS

BYRD S. LEAVELL, M.D., Charlottesville, *Chairman*

2:00 P.M.—PANEL DISCUSSION ON TREATMENT OF LYMPHOMA
Byrd S. Leavell, M.D., Moderator
Claude Forkner, M.D., Guest

PATHOLOGICAL ANATOMY AS RELATED TO THE CLINICAL COURSE OF LYMPHOMA—James R. Cash, M.D., Charlottesville

CHEMOTHERAPY OF LYMPHOMA—H. St. George Tucker, M.D., Richmond

IRRADIATION THERAPY OF LYMPHOMA—Allen Barker, M.D., Roanoke

DISCUSSION

3:45 P.M.—Guest Speaker—Claude Forkner, M.D., New York, N. Y.—ADVANCES IN LEUKEMIA

4:00 P.M.
House of Delegates—Parlors D-E-F

6:00 P.M.
Cocktail Party

7:00 P.M.
Banquet and Entertainment
Installation of Vincent W. Archer, M.D., as President

Wednesday Morning, October 21
9:30 A.M.

Section A—Ballroom

W. C. WELBURN, M.D., Arlington, Presiding

9:20 A.M.—AMERICAN RED CROSS BLOOD PROGRAM—Howard H. Montgomery, M.D., Director, Blood Program, American Red Cross, Eastern Area, Alexandria

9:30 A.M.—HEREDITARY TREMOR: ITS CHARACTERISTICS AND DIFFERENTIAL DIAGNOSIS FROM MORE SERIOUS DISORDERS—Cary Suter, M.D., Charlottesville

Hereditary tremor is a common but benign disorder, characterized by trembling of the hands and sometimes of the head. Cases are presented and the differential diagnosis from conditions such as hyperthyroidism and Parkinsonism is discussed.

9:50 A.M.—SOME SKIN MANIFESTATIONS OF INTERNAL DISORDERS—E. E. Barksdale, M.D., Washington, D. C., Commander John W. Walters, M.D., U.S.N., and Lt. j.g. A. O. Kern, M.D., U.S.N.R., Bethesda, Maryland

This is a presentation of some of the skin manifestations of internal disorders as seen by the general practitioner. It will be illustrated by lantern slides.

10:15 A.M.—THE HEART AND GALL BLADDER DISEASE—Julian Beckwith, M.D., Harry Yates, Jr., M.D., Preston Lowrance, M.D., and J. Edwin Wood, Jr., M.D., Charlottesville

For years gall bladder disease with gall stones has been recognized as an exciting factor in paroxysmal tachycardia, paroxysmal auricular flutter, and paroxysmal auricular fibrillation in certain individuals. In addition, the relief of anginal pain following the removal of gall stones has been shown to be dramatic in some patients. Surgical risk in these coronary heart disease patients will be described and the incidence of gall stones in coronary disease patients compared with the incidence of gall stones in general.

Section B—Parlors D-E-F

Snowden C. Hall, M.D., Danville, Presiding

9:20 A.M.—A REVIEW OF RECENT ADVANCES IN RADICAL PELVIC SURGERY AND A REPORT OF THREE CASES—John L. Harris, Jr., M.D., Hugh H. Trout, Jr., M.D., Horace A. Albertson, M.D., and Alfred P. Jones, M.D., Roanoke

A review of the literature dealing with radical pelvic surgery is given. Three cases are reported who have had radical pelvic surgery at this hospital. Two

are quite comfortable. The third patient has urinary incontinence.

9:40 A.M.—Fat Embolism—H. Rowland Pearsall, M.D., and Edgar N. Weaver, M.D., Roanoke

This paper presents two illustrative cases of fat embolism, with a review of the literature and discussion of the possible mechanisms of this condition.

9:55 A.M.—Surgery of the Biliary Tract—Frank S. Johns, M.D., Richmond

The essayist is reporting the results of 1875 cases operated on for disease of the biliary tract, surveying the recent literature on Biliary surgery in some detail, discussing some of the pitfalls that may occur at operation and making suggestions how they may be avoided.

10:15 A.M.—Carcinoma of the Right Colon—T. Dewey Davis, M.D., and Samuel W. Budd, Jr., M.D., Richmond

Since cancer of the right colon is most amenable to surgery, the authors review the symptoms of these lesions with illustrations from their own cases with the hope that an earlier diagnosis may be possible.

11:00 A.M.

General Session—Ballroom

CLINICOPATHOLOGICAL CONFERENCE

Kinloch Nelson, M.D., Richmond, Moderator

Announcements

Adjournment

All papers and contributions are the property of the Society and cannot be published elsewhere without the consent of the Publication Committee. (By-Laws, Art. III, Sec. 7.)

Emergency!

Medical Call Systems Seen As Valuable Aids to Improve M.D.'s Public Relations

From a public relations standpoint emergency medical call systems are mighty important, so says the American Medical Association. Adverse publicity in various parts of the country, Virginia included, regarding the difficulty of obtaining a physician in an emergency has prompted the AMA to take cognizance of this criticism by urging state and county medical societies to take steps to correct any deficiencies which exist.

While it is readily recognized by the profession that so-called emergencies are not always emergencies at all, the hysteria associated therewith by the family involved and that family's friends becomes very real, too often amplified all out of proportions to the facts. Physicians sensing these sometimes needless summonses are at times reluctant to make calls.

The doctor, however, cannot escape censure in the public eye by pointing to the unreasonableness of the demands made upon him. That is just one of the hazards of the profession. Good judgment and tact are called for, and even then there is always the unexpected incident, which can do a great deal of harm from a public relations point of view.

MEDICO-LEGAL NOTES

Consent to Surgical Operation*

Infringement of the right of freedom from interference with the person constitutes the tort of trespass to the person. Were it not for the element of consent, every surgeon would be liable to such an action for each operation.

The general rule of law is that when a patient is in full possession of his faculties and in such physical health that he is able to be consulted about his condition, consent is a prerequisite. Consent will normally be presumed if there is voluntary submission to the operation unless there has been a false misrepresentation as to the type or extent of the surgery.

It is well settled that the operation must conform substantially to that to which consent was given. However in emergencies, that is to say, where the patient is unconscious and incapable of forming a valid consent, the law confers a very wide discretion on doctors, probably on the ground of public policy.

The view that the consent of the husband is necessary in operations on the wife, especially if they would involve her sterility, is quite erroneous.

Whenever possible the consent of the parent or guardian of an infant is necessary unless there is an emergency. It should be noted however that failure of the parent or guardian to give consent may amount to neglect within the meaning of the Statute.

Where an adult patient, conscious and able to give consent refuses to submit to operation, no matter how serious his condition, he is acting within his rights and operations in the face of his refusal will make the surgeon liable even though he effects a salutary result. In such cases the situation is not changed by the patient becoming comatose.

"Blanket" consents so commonly in use are to be condemned. The consent should specifically and unequivocally authorize the surgery which is to be performed. The obtaining of proper consent is the physician's responsibility.

In Bennan v. Parsonett a surgeon operating for hernia of the left side found the right side in worse condition and operated thereon. Held justified by being of the same nature as consented to.

In Rolater v. Strain a young woman consented to an operation on her toe provided that no bones were removed. The removal of a sesamoid was held to be assault and battery.

Extreme caution is urged in operations where sterility is likely to result. Wherever possible the likelihood of such a procedure should be visualized and the patient's express consent should be obtained.

One should always recall that doing "What is good for the patient" may fail absolutely as a defense to a legal action.

*Contributed by Dr. Geoffrey T. Mann, Chief Medical Examiner, Commonwealth of Virginia, Richmond, Va.

MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department Mental Hygiene and Hospitals

Inter-Agency Relationships*

A community mental hygiene clinic by its very name implies that it seeks to meet the needs of a community with its specialized psychiatric service. It offers its services to a community as a whole but more specifically to three agencies: the social agencies, the schools, and the courts. Each one of these agencies performs a very specialized function and in turn each needs a different type of service from a community clinic. A community mental hygiene clinic makes every attempt to meet the needs of the agencies in practices which are consistent with good psychiatric principles.

A community mental hygiene clinic usually offers three different types of services: diagnosis, consultation, and full treatment. In the first two of these, diagnosis and consultation, the help is primarily to agencies and individuals other than directly to the patient. This is carried out when an agency wants help in understanding a child and his ability, such as would be given in a pre-placement or a pre-adoption psychological study. Following the psychological examination there may be interviews with the social worker and with relatives before a clinic would give the type of help that is needed in formulating further plans, such as whether or not a foster home or an institution placement is a better setting for a child. In the latter instance, this service might be considered a consultation service because of the continuing contact between a clinic and the agency or foster parents. In a treatment case, the service is directed primarily to the individual, who is usually seen once a week, though if the problem is more acute there would be more frequent contacts. It is here in a community mental hygiene clinic that the traditional "team" approach is carried out. While the psychiatrist sees the patient, the social worker sees the other individuals concerned in the case at the same time so that the whole family situation is studied and all concerned in the problem are given help. The social worker will probably make contacts with the schools, with the courts, or with the employers, if this seems indicated in any given case. The treatment service usually means that a case referred from another agency is turned over entirely to a mental hygiene clinic for handling unless there is some specific reason why an agency remains active, such as financial or protective help. In making a referral to a community mental hygiene clinic, it is very important that an agency seeking the help of the clinic give some idea of the type of service they desire. Not infrequently, as the case is going through the preliminary exploration at a clinic, it is found that it is necessary to modify the type of service requested of a clinic, such as a case coming in for diagnosis may be found to be in need of full treatment. A clinic usually calls the agency in for consultation if they feel that a different type of service is indicated.

Of the three community agencies mentioned, the Juvenile Court is usually the one which has the greatest time factor involved. Cases referred from the Court usually have a date set for a hearing and all possible reports should be before the Judge at the time of the hearing. Emergency requests are usually granted, but because of the limited time for study, the reports are necessarily limited in scope. Child placement and adoption agencies have considerably more time and can give a clinic an opportunity to give adequate study to any given situation. Adoptive cases usually have a year during which the child stays with the foster parents before any decision is finally reached. Child placement agencies again can usually give a clinic an adequate period of time for study before any report is made, though quite frequently there is considerable urgency in child placement and the study may be deferred until after the placement is made. The schools, if they have any understanding of clinic function, usually are able to go along with a clinic at a rate which is consistent with good psychiatric practice.

A clinic in any community must carry out a continuous program of interpretation of its services. Incorporated in this program of interpretation must also be the interpretation of the limitation of a community mental hygiene clinic. There is frequently the mistaken idea that a mental hygiene clinic has the answer to every problem presented to it and that it can satisfactorily treat every situation referred to

*Article prepared by William H. Kelly, M.D., Director, Memorial Guidance Clinic, Richmond, Virginia.

it. Medical science does not have the answer to all medical questions. This applies in psychiatry as well as general medicine. There are those cases which are untreatable and certainly many which are untreatable within the framework of a mental hygiene clinic. Clinics are not substitutes for mental hospitals, homes for the aged, detention homes or jails. Parents, relatives and agency workers often expect a clinic to act as a substitute for one or many of these mentioned. A clinic cannot be expected to assume the responsibility for dealing with psychotic or near-psychotic patients. The neurotic character or so-called "psychopathic personality" is another category where psychiatric treatment on an outpatient basis has little to offer. These patients usually require some type of controlled environment. The child of limited intelligence is frequently referred to a clinic and parties concerned expect a treatment program to be instituted because he cannot go on in school. Here, a diagnosis with recommendations is the best that a clinic has to offer. These cases are primarily educational and vocational problems. Many organic problems, such as birth injuries, infantile paralysis, or heart cases have minor emotional problems which are a part of the disorder itself and, hence, do not lend themselves too well to psychiatric treatment. This is just a partial list of the many types of cases that come to a clinic for treatment where a clinic, at best, can only give diagnostic or consultation services.

A clinic makes every possible attempt to give adequate reports to the sources of referral concerning the work that is being done. It is of great importance for agencies to remember that these reports are all privileged communications and technically can only be given with the permission of the patient or the parent. Reports can be made by telephone, but there is always the danger that parts of such reports may be omitted or misinterpreted. It is best to report as little as possible by telephone and then always follow the telephone report by a letter. Written reports can often be misused, especially by inexperienced workers, and information not intended for parents or patients is given to them by the direct handing over of a written report. The most abused of all reports is the result of the psychological tests, especially when it is given to a parent, a teacher, or directly to a patient. Experience has shown that a conference with all interested parties is the best possible type of report. At first sight this seems to be a waste of time of many busy people, but in the end it makes for the best possible use of the results of a clinic's study or the result of clinic treatment. Presentation of cases at staff conferences where all interested workers are present is also a good method of reporting and especially of interpreting clinic operation and clinic function.

In summary, a community mental hygiene clinic makes every possible effort to meet the psychiatric needs of a community. It can best meet the needs, particularly of agencies, if the agencies indicate the type of service they are seeking. A community clinic cannot treat all cases that come to its attention for the simple reason that there are some cases classified as untreatable. A clinic, by reason of its extramural treatment program, is limited in the types of psychiatric treatment that it can give. The individuals in a community mental hygiene clinic are constantly interpreting the work of the clinic to the community by means of lectures, institutes or discussion groups. The staffs of clinics are usually available for such educational programs and are willing to provide speakers for agency staffs, school groups, or for individual meetings of community groups.

PUBLIC HEALTH

Mack I. Shanholtz, M.D.
State Health Commissioner of Virginia

Infectious Hepatitis

The fact that infectious hepatitis is endemic in Virginia is undeniable. There are certain parts of the state from which reports of this disease are regularly being made and in sufficient numbers to warrant attention. Usually it is divided about equally between urban and rural sections, but in Virginia it is most frequently reported from rural or semi-urban areas.

The cause of the disease is a filterable virus which is resistant to heat and to chlorination. The natural transmission is through the fecal-oral route. The incubation period is from 15 to 40 days, averaging about 25 days. It is most common among children and young adults and the incidence declines with advancing years. The seasonal incidence is highest in the autumn and in early winter. It may be divided into three stages, the prodromal or pre-icteric, the icteric, and the convalescent. The onset may be gradual or sudden. There is an elevation of temperature, anorexia, nausea with or without vomiting, fatigue, general malaise, headache, abdominal discomfort especially in the right upper quadrant where there may be percussion tenderness, post-cervical adenopathy and splenomegaly. There is generally leucopenia with relative lymphocytosis. In a few days the fever subsides and bile may be detected in the urine and jaundice may be recognizable. There are subclinical cases in which jaundice never appears. Occasionally chronic impairment of liver function results. The period of convalescence may be prolonged and relapses may occur if the patient does not avoid fatigue and take sufficient rest. The period of communicability is unknown; the virus may be present in the blood before the onset of the disease is clinically recognized. It is advisable to regard the stools as potentially infectious for at least one month after onset.

To prevent the spread of the disease good community sanitation and personal hygiene should be observed, with particular emphasis on sanitary disposal of respiratory discharges and feces. Procedures that tend to interrupt the fecal-oral route should be carried out. Measures directed to fly abatement should be undertaken. Food receptacles should be sterilized, infected food handlers should be eliminated and every precaution should be taken to prevent the contamination of food, water and milk supplies. To prevent the development of hepatitis in close contacts, gamma globulin should be given; as little as 0.01cc per pound of body weight has been found to be effective. A maximum dose of 2cc of gamma globulin is considered to be sufficient.

Serum hepatitis is caused by a virus which is distinct from that causing infectious hepatitis. One attack of infectious hepatitis apparently confers immunity but does not protect the patient from contracting serum hepatitis. The incubation period of serum hepatitis is long and the virus is present in the circulating blood during this stage as well as in the active stage of the disease. It is difficult to distinguish serum hepatitis from infectious hepatitis. A history of having received a blood transfusion 2 to 6 months previously is suggestive. A group of cases among patients in a clinic where parenteral therapy is employed would definitely arouse suspicion. The use of gamma globulin does not prevent the development of serum hepatitis.

In both infectious and serum hepatitis proper technique should be used to prevent possible transmission through the administration of blood or blood products from an infected donor. It is an official requirement by the Laboratory of Biologic Control of the Public Health Service that all human plasma and serum intended for use in human beings be suitably exposed to ultra-violet light radiation to insure the destruction of the virus. All needles and hypodermic syringes and stylets for finger puncture should be rinsed and cleaned carefully prior to sterilizing between patients by boiling or autoclaving for 15 minutes.

While gamma globulin is available for the protection of contacts of cases of infectious hepatitis, the supply for this purpose is included in the allotment for protection against measles or for modification of this disease, and the total amount granted

for these purposes has been reduced this year by approximately 50%. Physicians are therefore urged to use no more than they actually need.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	June 1953	June 1952	Jan.-June 1953	Jan.-June 1952
Brucellosis	6	4	26	13
Diarrhea & Dysentery	65	66	462	1108
Diphtheria	3	2	51	46
Hepatitis	132	59	1229	362
Measles	546	1698	4119	14747
Meningitis (Meningococcic)	7	15	128	125
Poliomyelitis	17	9	36	20
Rocky Mountain Spotted Fever	14	13	22	22
Scarlet Fever	20	64	600	516
Tularemia	0	2	15	28
Typhoid and Paratyphoid	3	13	25	34
Rabies in Animals	28	39	262	310

BOOKS

The Epidemiology of Health. A New York Academy of Medicine Book. IAGO GALDSTON, M.D., Editor. Health Education Council, New York. 1953. ix-197 pages. Cloth. Price $4.00.

The Psychology and Psychotherapy of Otto Rank. An Historical and Comparative Introduction. By FAY B. KARPF, Ph.D. Philosophical Library, New York. 1953. x-129 pages. Cloth. Price $3.00.

Children of Divorce. By J. LOUISE DESPERT, M.D. Doubleday and Company, Inc., New York. 1953. 282 pages. Cloth. Price $3.50.

Therapeutics In Internal Medicine. By Eighty-Four Authorities. Edited by Franklin A. Kyser, M.D., F.A.C.P., Assistant Professor of Medicine, Northwestern University Medical School, Chicago; Attending Physician, Evanston Hospital, Evanston, Illinois. Second Edition. Completely Revised and Reset. Paul B. Hoeber, Inc., New York. 1953. xxi-830 pages. Cloth. Price $15.00.

Synovial Fluid Changes in Joint Disease. by MARIAN W. ROPES, M.D., Associate Physician, Massachusetts General Hospital, Assistant Clinical Professor of Medicine, Harvard Medical School; And WALTER BAUER, M.D., Chief of Medical Services, Massachusetts General Hospital, Jackson Professor of Clinical Medicine and Director of Robert W. Lovett Memorial Foundation for the Study of Crippling Diseases, Harvard Medical School. Published for the Commonwealth Fund by Harvard University Press, Cambridge, Massachusetts. 1953. xvi-150 pages. Illustrated. Cloth. Price $4.00.

This monograph deals with the normal and abnormal contents of the synovial cavities. The study is based upon twenty years of observations on synovial fluid. The book should be in the library of all orthopedists and physicians dealing with the diseases of joint.

F.M.H.

From A Doctor's Heart. By EUGENE F. SNYDER, M.D. With a Foreword by Paul Dudley White, M.D. Philosophical Library, New York. xvii-251 pages. Price $3.75.

From a Doctor's Heart is written primarily for the layman, but the physician will find it interesting because of the reflections upon illness, hospitals, doctors, specialists as seen by the patient. Virtually all technical terminology is adequately simplified for understanding of medical concepts by the layman. Much more than a discussion of heart disease is woven into the content of the book. This mixture of subject matter involving the author's illness, politics, social problems, international problems, etc., imparts a rambling character to the discussion, but the transitions are not distracting, and the reader is rewarded in finding numerous worthwhile pointers on the philosophy of life and of living. Perhaps it is this wandering conversationalist style, in part, which makes the book engaging. The reader feels he has enjoyed a friendly and instructive chat with one who speaks with first-hand knowledge about adjustment to bodily illness and to social, political, religious, and ideological intolerances. Layman and physician alike may enrich his own philosophy of life by pondering the words of one whose closeness with death stimulated introspection on the meaning of living.

H.F.F.

Pheochromocytoma and the General Practitioner. By JOSEPH L. DECOURCY, M.D., and CORNELIUS B. DECOURCY, M.D. DeCourcy Clinic, Cincinnati, Ohio. 1952. Cloth.

This book of 165 pages stresses the need to rule out the possibility of pheochromocytoma in every person with hypertension of either the persistent or intermittent type. The need to do so is great, since pheochromocytoma is one of the causes of hypertension which can be treated with success through surgery.

Included in the book are the symptoms and signs, recent diagnostic tests, pathophysiology, surgical considerations and a bibliography of 361 references.

The pages are read with ease.

F.M.

EDITORIAL

George Alexander Otis (1830-1881)

FOR years I have admired the lovely portrait of a boyish head that hung high up on the east wall of the reading room of the Army Medical Library. When waiting for books or for an inspiration, my gaze would unconsciously wander to the beautiful face. Col. Harold Wellington Jones (Ann. M. Hist. 1937, n.s., IX, 517.) writes that the portrait was painted by Thomas Sully when Otis was twelve years old. How it came into the possession of the Library or how it came to be painted Col. Jones was unable to find out.

George Alexander Otis was born in Boston November 12, 1830 and died in Washington February 23, 1881. He was descended from a cultured New England family. His great grandfather, Ephraim Otis, practiced medicine at Scituate, Massachusetts. His grandfather, George Alexander Otis, lived in Boston, retired early from commercial pursuits and devoted himself entirely to books, translating Botta's *Guerra dell' indipendenza americana.* His father, also named George Alexander, was a



George Alexander Otis, M.D.
Courtesy of Col. Harold W. Jones
In Annals of Medical History
November 1937

graduate of Harvard and a lawyer. On February 9, 1830 he married Anna Maria Hickman, daughter of Harris Hickman of Newton, Massachusetts, who was born in Front Royal, Virginia. We know nothing of the appearance of Anna Maria but, after seeing the Sully portrait of her only child, we can readily believe that she shared the well-known pulchritude of the Valley-of-Virginia Hickmans.

Young Otis was a delicate child. In less than a year his father died of consumption and his up-bringing devolved entirely upon his mother. He was educated at the Boston Latin School and at the Fairfax Institute in Alexandria, Virginia. In 1846 he entered the sophomore class at Princeton and graduated A.B. in 1849. At Princeton he was a quiet, reserved student, much given to literature and poetry and especially to French literature. He wrote the graduation poem for his class.

Having determined upon medicine, he began his studies in the office of Dr. F. H. Deane in Richmond, the city in which his mother was then living. In the fall of 1849 he matriculated in the Medical Department of the University of Pennsylvania and he graduated with the M.D. degree in 1851. The following autumn and winter he spent in Paris and devoted much of his time to the clinical teachings of the great French masters and to watching the operations of Nelaton, Malgaigne, Jobert de Lambelle, Roux and Velpeau. The fighting across the barricades in the *coup d'état* of '51 afforded Otis some practical lessons in military surgery. He also took a great interest in the stirring French politics and wrote a series of letters on the subject for the *Boston Evening Transcript.*

When he returned to America in the spring of 1852, Princeton conferred upon him the Master of Arts degree. He began the practice of his profession in Richmond and in 1853 we find him reporting a successful extirpation of an enlargement of the isthmus of the thyroid, the first of such operations to be reported in Virginia. The medical profession was being reorganized and Otis took an active part. He represented The Medical Society of Virginia at the 1852 and 1853 meetings of the American Medical Association. He also started the publication of a medical magazine, the *Virginia Medical and Surgical Journal,* the first number of which appeared in April 1853. The *Stethoscope and Virginia Medical Gazette,* owned and edited by Dr. Philip Claiborne Gooch, had been running since January 1851. Patronage was of necessity limited and competition was keen and bitter. The Medical Society of Virginia purchased Dr. Gooch's journal for its official organ, but sold it at auction in 1855. The two journals were then amalgamated under the title of the *Virginia Medical Journal* and the first number with the new title appeared in January 1856.

Dr. Otis' journal had also undergone some changes. At first the entire financial responsibility was his. Dr. H. L. Thomas was associate editor but had no financial interest in the *Journal.* He resigned within a year and his place was taken by Dr. James B. McCaw who also became part owner. In May 1854 Dr. J. F. Peebles of Petersburg became an editor with Dr. McCaw, and Dr. Otis retired from active participation in its direction, becoming corresponding editor. In the summer of 1854, Dr. Otis moved to Springfield, Massachusetts and began again the practice of medicine. He kept his position with the *Journal* until it stopped publication. The outbreak of the Civil War put an end to the *Virginia Medical Journal* and also to Otis' private practice.

He received the appointment of surgeon to the 27th Regiment of Massachusetts Volunteers and was mustered into service September 14, 1861. He was with his Regiment on Roanoke Island and at the battle of Newbern. In September 1862 he went as medical officer in charge of the steamer "*Star of the South*" with sick and wounded, from Newbern, N. C. to New York. In 1863 he served on detached duty in the Department of the South. This proved to be important to Otis for it brought him in contact for the first time with the high command in medicine. While on this service he attracted the attention of the Medical Director, Surgeon Charles H. Crane, U.S. Army. In 1864 he was again detached and ordered to Yorktown to assume the duties of surgeon-in-chief of General Wistar's command and later to a similar position with

General Heckman's division near Portsmouth. In May he received a sick leave for fifteen days and this was extended for thirty days. At the end of his sick leave, he resigned as surgeon of the 27th regiment and received an appointment as Assistant Surgeon U.S. Volunteers.

Upon the recommendation of Surgeon Crane, who was then on duty in the Surgeon-General's Office, Otis was assigned as an assistant to Surgeon John H. Brinton who was engaged in collecting materials for the Surgical History of the War of the Rebellion. In August 1864, Otis was promoted to the rank of Surgeon of Volunteers and was ordered to relieve Surgeon Brinton of the various duties. He inaugurated a system of record books which proved of great service in securing the accurate and complete record of individual cases for use in the Surgical History. He also expended much time on the surgical collection of the Army Medical Museum. In order to secure appropriation for the publication of "Medical and Surgical History of the War", the Surgeon-General directed Otis and Woodward, who had charge of the medical aspects of the history, to make reports on the extent and nature of the materials they had collected. These appeared in November 1, 1865 as "Circular No. 6, a quarto volume 166 pages with a number of illustrations." It was widely distributed and excited admiration of military surgeons in Europe as well as in America. This was the beginning of the great "Medical and Surgical History of the War of the Rebellion" which appeared volume after volume from 1870 to 1888. Otis wrote the first two surgical volumes and was at work on the third when he died. The third volume was completed by D. L. Huntington in 1883.

Otis had been promoted to surgeon in the Army with the rank of major in 1880. He was foreign member of the Medical Society of Norway (1870), corresponding member of the Surgical Society of Paris (1875), and a honorary life member of the Massachusetts Medical Society (1877). He was also a member of the Philosophical Society of Washington, and of the Academy of Natural Sciences of Philadelphia. His fondness for polite literature continued throughout life, and he had considerable taste for music and the fine arts. These qualities made his companionship charming to those who enjoyed his intimacy. In ordinary conversation with strangers he appeared embarrassed unless the conversation were connected with his work.

Medicolegal Notes

In this issue appears the first of a series of articles on medicolegal topics of current interest. The material will be presented in a concise manner and is being prepared by Dr. Geoffrey Mann and his assistants at the office of the Medical Examiner and by Dr. Whitmore of the University of Virginia. Readers of the Monthly are urged to write in to the editor or to Dr. Mann, 404 North 12th Street, Richmond, and suggest topics which they would like discussed.

NEWS

Our Annual Meeting.

The 106th Annual Meeting of The Medical Society of Virginia will be held in Roanoke from October 18-21. Headquarters will be the Hotel Roanoke.

Once again, a most complete scientific program has been arranged with papers on many subjects and panel discussions of unusual interest. You will want to study carefully the preliminary program appearing in this issue.

The exhibits, both scientific and technical, will be one of the real features of this meeting. All exhibits will be located in the exhibit hall (just off the main garage), and physicians are urged to spend as much time as possible with them. Valuable registration prizes are an additional inducement.

The cocktail party and banquet on Tuesday evening will once again highlight the meeting's social activities. Something different and unique in the way of entertainment has been planned, and you are advised to make definite plans right now to attend.

Unfortunately, the Hotel Roanoke is unable to accommodate all who will attend. However, the Patrick Henry and the Ponce de Leon are both excellent hotels and within a few blocks of the Roanoke. For those who prefer inns and motel courts, there is a nice selection from which to choose.

Make your plans now—October 18-21. It is your meeting!

Wise County Medical Society.

The June meeting was held on the 10th, following a social and get-together hour. Dr. R. N. Shelley of Norton presided and Dr. Joseph A. Ledogar of Norton acted for Dr. Tudor as secretary. Dr. Delmas B. Jones and Dr. John H. Dellinger, both of Norton, were received as members, following which the guest speakers were introduced. These were Drs. Richard Sexton, John Casterson and Martin Davis, all of Knoxville, Tenn., who spoke on Psychosomatic Medicine as it pertained to various specialties. Following these was further discussion of the Tumor Clinic possibly to be located in Norton. Several members of the committee being absent, no action was taken. Adjournment followed.

Montgomery Medical Society.

St. Albans Sanatorium, Radford, was host to this Society at its regular spring meeting on April 29. The physicians of Pulaski County were also invited.

Dr. Ford Lucas of Blacksburg, the President of the Society, presided at the business meeting. The following officers were elected for the coming year: Dr. R. H. Grubbs, Christiansburg, President; Dr. H. R. Hartwell, Radford, Vice-President; and Dr. D. D. Chiles, Radford, Secretary-Treasurer, re-elected. Dr. A. M. Showalter of Christiansburg was elected to honorary membership in recognition of his many years of service to the Society. Mr. John Walker, Attorney of Roanoke, Virginia, gave a very timely and informative talk about certain legal problems in medicine.

News from the Medical College of Virginia, Richmond.

The one hundred sixteenth Commencement was held on June 2, 1953 with 334 in the graduating classes: 100 in medicine, 50 in dentistry, 56 in pharmacy, 57 in nursing, 39 in physical therapy, 7 in hospital administration, 19 in medical technology and 6 master of science degrees: 4 in biochemistry, 1 in biology and 1 in legal medicine. At this time honorary degrees of Master of Humane Letters to Dr. Jack Walter Witten, Doctor of Laws to Colonel Richard Henry Eanes, and Doctor of Science to Dr. Richard Hugh Wood were awarded.

Gifts and grants from July 1, 1952 to July 1, 1953 total $872,383.81.

The Wood Memorial Dental Building, now under construction, is scheduled for completion in August. On March 30 at ten o'clock in the morning the corner stone for the new building was laid with simple ceremonies.

Dr. Isaac A. Bigger, professor of surgery, was made President of the Southern Surgical Association.

Dr. Lynn D. Abbott, Jr., associate professor of biochemistry, has been invited to act as chairman of the session on Detoxication and Related Topics at the spring meeting of the American Society of Biological Chemists in Chicago.

Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard University Medical School, delivered the sixth annual Stoneburner lecture on March 6.

Dr. H. Hudnall Ware, Jr., professor of obstetrics and gynecology, was elected president of the South Atlantic Association of Obstetrics and Gynecology at its meeting in Havana, Cuba. Doctor Ware has been made chairman of the section of gynecology of the Southern Medical Association.

Dr. Allan Forbes, who was graduated from the school of medicine this year, was recognized for his outstanding record by being awarded the A. D. Williams Scholarship prize and also the William Branch Porter prize.

Dr. Ebbe Curtis Hoff, professor in neurological science and lecturer in physiology, was awarded a degree of doctor of medicine from Oxford University in recognition of his outstanding medical research.

Dr. George Zur Williams, director of cancer research at MCV, has been granted a leave of absence for one year to organize a department of clinical pathology for the National Institutes of Health at Bethesda, Maryland. During the year he will continue his fundamental studies in cancer as an associate in the National Cancer Institute. Dr. Louis A. Leone will act as head of the department in Doctor Williams' absence.

The Virginia State Board of Medical Examiners,

At its semi-annual meeting in Richmond, June 17, re-elected Dr. C. L. Riley of Winchester as president; Dr. G. B. Setzler of Pennington Gap as vice-president; and Dr. K. D. Graves of Roanoke as secretary-treasurer.

Dr. L. B. Hudson,

Who has been with the State Health Department since May 1, 1953, was assigned as Director of the Henry-Martinsville-Franklin Health District on July 1. Offices are at Martinsville and at Rocky Mount with Martinsville as headquarters.

American College of Chest Physicians.

The meeting of the association in New York City, May 28-31 surpassed all previous records of the College for attendance, there being approximately 1,500 to register, including 1,200 members and guest physicians and 300 non-physician guests. Dr. Alvis E. Greer of Houston, Texas, succeeded to the presidency, and Dr. William A. Hudson of Detroit was named president-elect. The next annual meeting is to be in San Francisco, June 17-20, 1954.

Dr. C. Lydon Harrell of Norfolk was re-elected Governor of the Virginia branch of the College.

Dr. Armistead D. Williams

And family of Richmond left the end of June for their new home in Clifton Forge, where Dr. Williams succeeded Dr. J. R. Beckwith as chief of the Medical Department of the Chesapeake and Ohio Hospital.

International College of Surgeons.

The United States and Canadian Sections of the the College will open at the Waldorf-Astoria in New York on Sunday evening, September 13. This session will be open to the public and Dr. Richard H. Shryock, Director of the Institute of the History of Medicine of Johns Hopkins University, Baltimore, will speak on "Fame in Surgery". The scientific program will open on Monday morning, September 14, and from that time to the closing session on Thursday evening, will include a discussion of many interesting subjects.

Dr. William R. Lovelace of Albuquerque, New Mexico is president of the United States Section and Dr. Douglas U. McGregor of Hamilton, Ontario, is president of the Canadian Section.

Dr. Benedict Nagler,

Assistant professor of neuropsychiatry at the Medical College of Virginia and chief of the neuropsychiatric service at the Veterans Administration hospital in Richmond, Virginia, has accepted a new appointment in VA Central Office at Washington, D. C. He became chief of the neurology section of the psychiatry and neurology division, Department of Medicine and Surgery, effective July 19, 1953.

Dr. Nagler has been chief of the Neuropsychiatric Service at McGuire VA Hospital, Richmond since May 1, 1946.

Dr. Hood Transferred.

Veterans Adinistration announces the appointment of Dr. John G. Hood, recently of Richmond, as manager of the VA Hospital in the Bronx, New York City. Dr. Hood, who has been manager of the VA Hospital in Richmond since January, 1951, succeeds Dr. Ralph G. Devoe (retired) as manager at the Bronx.

The American Congress of Physical Medicine and Rehabilitation

Will hold its annual scientific and clinical session

on August 31-September 4, 1953 inclusive, at the Palmer House, Chicago, Ill. Scientific and clinical sessions will be given on the days of August 31 and September 1, 2 and 3. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the executive offices, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

The Pan American Medical Women's Alliance

Will hold its fourth Congress at Beekman Towers Hotel, First Avenue and 49th Street, New York, from September 24 through October 1, 1953. The morning hours will be given over to a scientific program of general interest. There will be round-table luncheon discussions with leaders speaking Spanish and English. Through the sponsorship of leading New York medical women those interested in a special field will have opportunities to attend clinics of their choice. The Medical Women's Association of New York is serving as hostess and planning a most delightful program, including tours of the New York Hospital-Cornell Medical Center and Columbia-Presbyterian Medical Center, a boat trip around Manhattan Island, tour and luncheon at the United Nations, visits to Radio City and the Empire State Building, and a drive to Hyde Park. Hotel reservations should be made direct with the hotel.

Further information may be obtained from the Registration Chairman, Dr. Ina A. Marsh, 140 Linwood Ave., Buffalo 9, New York. Registration fee is $10.00.

Drs. Boyd and Harris.

Dr. John O. Boyd, Jr., announces the association of Dr. John L. Harris, Jr., in the general practice of medicine and surgery, with offices at 920 South Jefferson Street, Roanoke, Virginia.

Dr. Martin Markowitz

Announces the opening of his office for the practice of general surgery in the Lee Medical Building, Richmond, Virginia.

American College of Surgeons.

More than 11,000 surgeons, other physicians and guests are expected to attend the 39th annual Clinical Congress of the American College of Surgeons, to be held in Chicago, October 5 through 9, 1953. The program will include formal scientific papers, panel discussions, symposia, postgraduate courses, surgical forums, medical motion pictures, ciné clinics, color television and exhibits. Headquarters will be The Conrad Hilton Hotel.

Dr. Harold L. Foss, president of the American College of Surgeons for 1953, will preside at the opening evening session at which Dr. Fred W. Rankin, Lexington, Kentucky, will be installed as president for the year 1954. Dr. Evarts A. Graham, St. Louis, chairman of the Board of Regents, will introduce special guests and Sir James Paterson Ross, London, England, will give the Eighth Martin Memorial Lecture, entitled "Science and Surgery." Dr. Paul R. Hawley of Chicago is The Director of the American College of Surgeons.

Dr. Challis H. Dawson Honored.

The American Physicians' Art Association, at its recent meeting in New York City, elected Dr. Challis H. Dawson of Suffolk as president. He is the first president outside the large cities and also the first from the South. The association counts some 15,000 physicians as members, and holds its annual exhibitions in conjunction with the meetings of the American Medical Association.

Dr. Dawson received the Medal of Merit for his "Oustanding Accomplishment in Art," as also many prizes and awards. He is entirely self taught, never having had a lesson of any kind and, while he works in all media except oils, he is primarily a water colorist. He has had pictures accepted and shown at a number of shows.

Dr. J. Stuart Staley

Returned to his former home in Marion in May, to resume his practice after living and working in India for the past seven years.

Dr. Leonard D. Policoff,

Richmond, has been awarded a United States Public Health fellowship for a two-year period of research and training at Baruch Center of Physical Medicine and Rehabilitation at the Medical College of Virginia, Richmond. This is the first selection of MCV for such training and Dr. Policoff is the first

local recipient of such a grant. Dr. Policoff has been practicing general medicine in Richmond for several years and has also been an instructor in medicine on the MCV faculty.

The Halifax Community Hospital

Was dedicated on June 24, with Dr. W. T. Sanger, president of the Medical College of Virginia, as the principal speaker. It was estimated that there was a crowd of 2,500 attending the ceremonies before the new 50-bed building. Dr. J. D. Hagood, chief of the new hospital's medical staff, described the new building as "a monument to the people of Halifax County". The new hospital was to begin taking in patients about July 1.

Tobaccorama—1953.

For the past four years, Richmonders and their guests have enjoyed the annual Tobacco Festival, which not only focuses attention upon Richmond as the cigarette capitol of the world, but also promotes other Virginia cities which are well known tobacco markets.

One of the most interesting of the Tobacco Festival events is the Tobaccorama, a musical show which tells the story of tobacco in song and dance, using a cast of 500, an orchestra and a ballet. For the first time, the sale of tickets to Tobaccorama is being sponsored by the Florence Nightingale Circle of the Sheltering Arms Hospital—the only free hospital in the State of Virginia.

Tobaccorama will be presented at Parker Field in Richmond on September 16th and 17th at 8:30 p.m. Tickets range in price from $2.00 in the boxes to $1.00 in the upper section of the grandstand. For tickets, contact Mrs. George D. Vaughan, Jr., Ticket Chairman for the Florence Nightingale Circle—Glenbrooke Hills—Richmond 88-2097.

Proctologic Research Fellowship.

The International Academy of Proctology announces the establishment and award of a one year Proctologic Research Fellowship in the amount of $1200.00. This Research Fellowship grant has been awarded to the Jersey City Medical Center, New Jersey, to be administered under the direction of Dr. Earl J. Halligan, Surgical Director of the Medical Center. Dr. Halligan is a former International President of the Academy.

The Board of Trustees of the International Academy of Proctology will vote another Fellowship grant of a similar amount at the time of the next Annual Meeting of the Academy. Thus, there will be at least two Research Fellowship studies in progress, in different institutions, under the auspices of the International Academy of Proctology.

Urology Award.

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than ten years, and to men in training to become urologists.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before February 1, 1954.

Internist,

Aged 37, draft priority IV, graduate of the University of Virginia, with university hospital training and boards completed, would like to become associated with individual physician or group for practice. Address "Internist" care this journal, 1105 West Franklin Street, Richmond 20, Virginia. (*Adv.*)

OBITUARIES

Resolution Upon the Death of Dr. Cohen.

Dr. Franklin Harry Cohen was born in Norfolk, Virginia, on December 19, 1909, and died of cerebral hemorrhage on June 12, 1953.

Dr. Cohen received his early education in the primary and secondary schools of this city, and in 1928 entered the University of Virginia where he received his degree in medicine in 1934.

He completed his internship at the Beth Israel Hospital of Newark in 1935, and the Essex County Hospital for Contagious Diseases in 1936. He entered the private practice of general medicine in this city in 1936 and became a member of the Norfolk County Medical Society, The Medical Society of Virginia, and the American Medical Association. Until 1941, when he entered the armed forces, he acted as assistant on the medical service at St. Vincent's Hospital and Norfolk General Hospital.

Dr. Cohen accepted an appointment as First Lieutenant in the Officers Reserve Medical Corps on September 4, 1935. He was ordered to active military service with the 37th Infantry Division on January 1, 1941. His overseas duty was entirely in the Southwest Pacific area with

the famed 32nd Division which fought, in 654 days of actual combat, through the swamps of New Guinea, the drenching rains of Leyte, to the high mountainous terrain of Luzon. For meritorious achievement in connection with military operation against the enemy in New Guinea and the Philippine Islands, Dr. Cohen was awarded the Medical Combat Badge, the Bronze Star Medal, and was recommended for the Legion of Merit. With the 32nd Infantry Division he served first as Battalion Surgeon, then Regimental Surgeon of the 128th Infantry, and finally as the 32nd Division Medical Inspector.

Following his separation from the military service, Dr. Cohen returned to Norfolk and in early 1946 re-entered private practice of general medicine, and later resumed his affiliations with Norfolk General Hospital and the new De Paul Hospital.

Despite a progressively increasing degree of hypertension which first became manifest at least six years ago, Dr. Cohen spared himself no effort, denied no patient medical care, continued to give of himself unselfishly to his practice and clinic work.

At one o'clock in the afternoon of June 12, 1953, Dr. Franklin Harry Cohen suffered a massive cerebral hemorrhage while caring for patients in his office, and expired that evening.

With a deep sense of appreciation for the contributions which Dr. Cohen made to this community and to his country, and reflecting the admiration, respect, and affection of his colleagues, it is recommended that this resolution be incorporated into the minutes of this Society and that a copy be presented to Mrs. Lena L. Cohen, mother, and Mrs. Evelyn Pierce Cohen, wife, of our late Dr. Franklin Harry Cohen.

(Signed BERNARD LIDMAN, M.D., *Chairman*
MILTON SALASKY, M.D.
ALFRED L. KRUGER, M.D.
Committee.

Dr. Richard Henry Woolling,

Pulaski, a Life Member of The Medical Society of Virginia, died June 17 after a long illness. He was 81 years of age and a graduate in medicine from the former University College of Medicine, Richmond, in 1896. He located in Pulaski as a company doctor for the Virginia Iron, Coal and Coke Company and had taken a prominent part in civic affairs of that community. He was an assistant surgeon for the Norfolk and Western Railway Company, a member of the Rotary Club, the Pulaski Science Club, Elks, a steward in the Methodist Church, and a director of the Pulaski National Bank for a number of years.

Dr. George T. Myers,

Prominent physician of Norfolk, died July 8 at the age of 75. He was a graduate of the Medical College of Virginia in 1901 and had spent practically all his life in Norfolk except for time he saw service in New York City hospitals. About 1907 he was chosen as city doctor for Norfolk, which position he served until his retirement in 1937. He was a member of various medical organizations, including The Medical Society of Virginia of which he was a Life Member. Surviving are his wife and a son and daughter.

Dr. William Alfred Pinkerton,

Retired physician of North Garden, died July 8 in a Charlottesville hospital. He was seventy-six years of age and had graduated in medicine from the University of Virginia in 1900. His wife and four children survive him. Dr. Pinkerton was a Life Member of The Medical Society of Virginia.

Dr. B. R. Caldwell,

Formerly of Alexandria but more recently of Coral Gables, Florida, died March 22, death resulting from a coronary condition. He was seventy-five years of age and a graduate of the University of The South, Sewanee, Tenn. in 1901. He served twenty-two years on the Board of Veterans Appeals. He had been a member of The Medical Society of Virginia since 1902.

Dr. John C. Wallace,

Who had practiced in Arlington for twenty years, died June 28, at the age of 76. He graduated in medicine from Tulane University, New Orleans, in 1899 and practiced for sometime in Mississippi before locating in Arlington.

Dr. N. Thomas Ennett,

Of Beaufort, N. C., died June 23, at the age of seventy-six. He graduated from the Medical College of Virginia in 1907 and lived in Richmond, Va., for a number of years, having been medical director of Richmond Public Schools for twenty-seven years. After leaving Richmond, he served as health officer in several places in North Carolina. His wife survives him.

Dr. Frank H. Lahey,

Internationally famous surgeon and founder and director of the Lahey Clinic in Boston which bears his name, died June 27, at the age of 73, in the New England Baptist Hospital, which he had entered a few days previously for a check-up and rest. He was the second noted Boston surgeon to die within a few days, Dr. Marius N. Smith-Petersen having died on June 18.

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From where I sit *by* Joe Marsh

It's Fine to Be Fooled —Sometimes

Handy Peters entertained for the ladies of the Auxiliary the other night —and had all the ladies believing for a while that he's the best marksman in the county.

Handy put on a great act. He set up a whole bunch of balloons on a muslin backdrop and then took out his pea-shooter. He shot blindfolded, standing on his head, every which way—and broke a balloon every time.

No wonder Handy made a big impression on the ladies. What they didn't know—till the show's end—was that Buck Mulligan was hiding behind the backdrop improving on Handy's aim with a hatpin.

From where I sit, we all get things "put over" on us now and again. When it's good-natured—fine! But, some folks would fool us into believing it's wrong to enjoy a glass of beer. Others would tell their neighbor how to practice his profession. For real American tolerance and neighborliness these people are simply "off target."

Joe Marsh

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VIRGINIA MEDICAL MONTHLY

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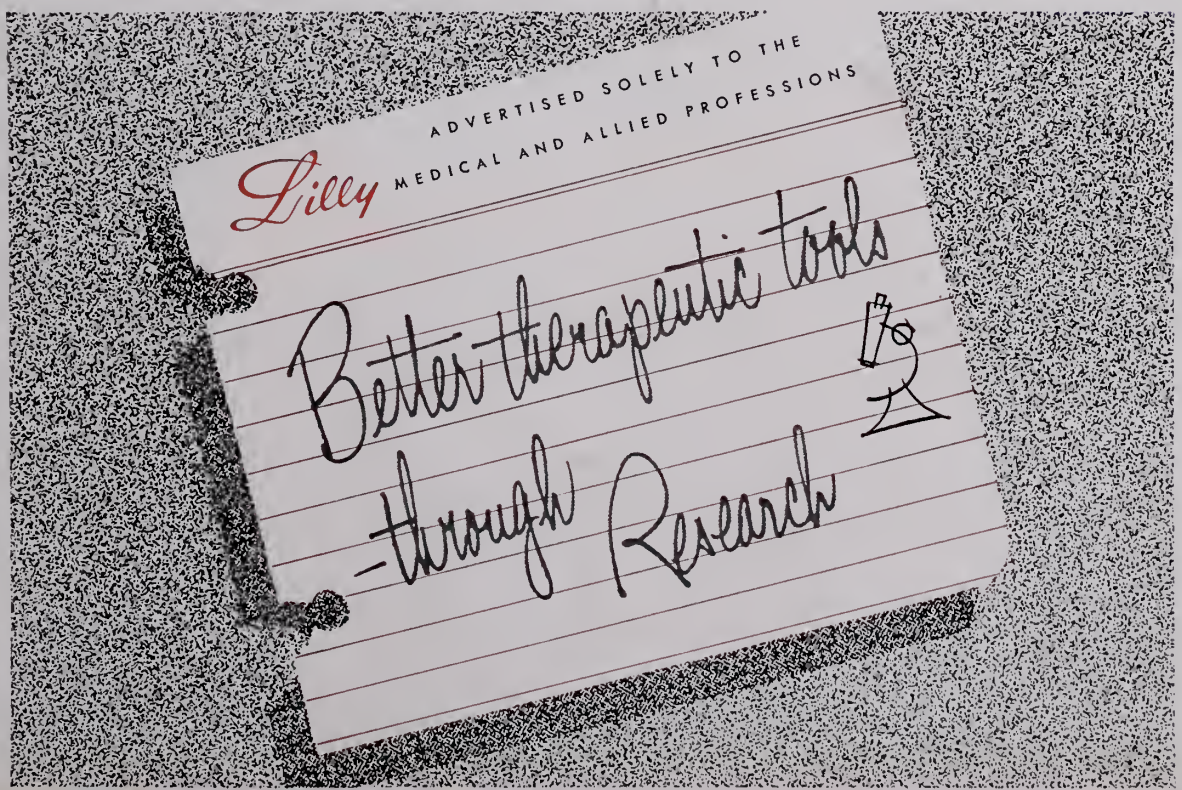
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GUEST EDITORIAL

Progress in the Measurement of Pulmonary Function

WITHIN the last decade we have gained some new knowledge of pulmonary function and have clarified a good deal of the knowledge which we already had. Much of the recent activity in this field has been inspired by the needs of the military for more precise information on which to base the design of such equipment as aircraft oxygen systems and resuscitators. Progress has been facilitated by great improvements in measurement techniques within the last few years. Now it has become possible to measure rather precisely certain properties and functions of the lung which could not be measured well before. Normal limits have been established for these measurements and they are being applied to the study of patients with pulmonary disease.

These studies can be useful in at least two ways. They can provide a much clearer understanding of the different kinds of functional impairment produced by lung disease of different sorts. In turn this can lead to better clinical and even etiologic differentiation of lung disorders than we can achieve at present. There is a real need for such improvement. Secondly, good measurements of function furnish a good means of assessing the results of therapeutic efforts. Potentially effective therapeutic agents and procedures are appearing with increasing frequency; the better the means of evaluation, the more rapid and certain our therapeutic progress will be.

Because of the potential significance of these developments to the field of pulmonary disease, as well as the interest inherent in any biologic advance, it is proposed to give a brief account of some of the new measurement techniques and their results.

It is almost axiomatic that lung disease produces changes in the elasticity and mobility of the lungs. The voluminous, non-elastic lungs of emphysema, the blocked airways of asthma, and the rigid lungs of chronic pulmonary fibrosis are all familiar examples. Physical changes of this kind are the commonest cause of dyspnea associated with lung disease. In spite of the familiarity of these changes, we have had no exact and easy means of measuring them until very recently. For such means we are indebted to the work of Fenn and his colleagues[1] at the University of Rochester and to subsequent investigators in the field. The elasticity of the lungs is measured much as one could measure the elasticity of a balloon, by relating volume change to pressure change. In the case of the lungs, one relates the volume of a breath, or tidal volume, to the accompanying change in intrapleural pressure[2,3]. Normal lungs of average size will have a volume change of about 0.2 liters for a change in intrapleural pressure of 1 cm. of water[2,4]. The relation is nearly linear in the ordinary ranges of tidal volume. The volume change per centimeter of water pressure change is termed the "compliance" of the lungs. In practice, fluctuations in intra-esophageal pressure, transmitted by way of a swallowed balloon, are measured instead of intrapleural pressure and are recorded continuously. If the ventilation rate is simultaneously recorded by having the subject breathe through a suitable flow-meter, it is possible to measure off the volume of each breath and relate this to the change in intra-esophageal pressure. For the estimation of compliance it should be noted that measurements of pressure and volume are made under static conditions, just at the height of

inspiration and at the depth of expiration, when no air is moving in or out of the chest. Otherwise, one measures not only the pressure required to overcome the elastic force of the lung, but also that required to maintain air flow. The pressure required to maintain air flow is a measure of the pulmonary "resistance"[1,3,4,5,6]. This is usually expressed as the pressure in centimeters of water needed to produce a flow rate of one liter per second. The normal value is in the neighborhood of 1.7 cm. of water[4]. This is measured, at the standard flow rate, by correcting the observed intra-esophageal pressure by the amount necessary to balance the elastic force of the lung at the existing volume. The remainder is the pressure due to resistance.

Studies of emphysema by these means show that the compliance, though variable, is generally within normal limits[5,7]. This apparent elasticity, however, is maintained only at the expense of a great increase in the resting volume of the lung. It has been pointed out that the normal resting or "relaxation" volume of the lungs is determined by a balance between the elastic forces tending to cause contraction of the lung and those tending to cause expansion of the thoracic cage. The increase of thoracic volume in emphysema appears to result in part from a loss of the contractile force of the lung at its ordinary volume, leaving the normal elastic forces of the chest wall free to expand the thoracic cage[1]. The pulmonary resistance is very greatly increased in emphysema and is greater during expiration than inspiration[5,7]. During forced expiration the resistance increases tremendously, so that large increments in pressure will produce little or no increment in flow rate. This is apparently because air is trapped within the lung by collapse or closure of respiratory passageways under increased intra-pulmonary pressure. This mechanism explains the classical failure of the emphysematous patient to blow out the candles on his birthday cake. It also explains his failure easily to cough up bronchial secretions and his consequent vulnerability to pulmonary infections. Whether such mechanisms may play a part in the actual causation of pulmonary emphysema is still undetermined.

Some observations have been made on the effects of pulmonary vascular congestion on compliance and resistance[4,8]. In patients with mitral stenosis, compliance is decreased and resistance is increased. The changes are still more marked when the subjects are in failure. Preliminary evidence indicates that light exercise will cause a substantial further decrease in the compliance of patients with well-established mitral stenosis, but not that of normal persons. Presumably, this is related to the increase in pulmonary vascular pressure which occurs during exercise in patients with mitral stenosis. If so, such measurements may prove to be a useful means of evaluating therapeutic procedures directed toward the relief of pulmonary vascular congestion.

The details of pulmonary gas exchange have also been the subject of considerable recent investigation. Since it is the function of the lung to carry on gas exchange between blood and air, it would be logical to assess lung function by the closeness with which blood in the pulmonary capillaries comes into gaseous equilibrium with the alveolar air. Arterial blood can easily be obtained for examination, but it is difficult or impossible to obtain a reliable sample of alveolar air from a person with pulmonary disease. Even if the alveolar air could be characterized adequately, there would remain uncertainty as to the cause for failure to attain equilibrium between blood and air in a given subject. For example, cyanosis might be due to actual blood shunts which by-pass the functioning lung, as in congenital heart disease, or atelectasis; or it might be due to poor ventilation of large areas which were richly perfused with blood; or it might be due to disease of the alveolar "membrane", tending to impede the passage of oxygen from alveolus to blood; or to combinations of these factors.

These formidable problems are now being solved. This is partly owing to the pioneer work of the group at Rochester[9,10], but primarily to the investigations of Riley, Cournand, Lilienthal, and their associates[11,12,13,14]. Some of the basic concepts which have permitted progress in the field are very interesting. The problem of characterizing alveolar air has been approached by combining two ideas. In general, the ratio between oxygen and carbon dioxide partial pressures in alveolar air can be expressed by the so-called "alveolar equation", in terms of the composition of the inspired air and the respiratory quotient, both of which are easily determined. On the other hand, the average alveolar carbon dioxide pressure can quite fairly be taken as equivalent to the carbon dioxide pressure of the arterial blood, which is easily measured. This is because the great diffusibility of carbon dioxide across the alveolar membrane allows good equilibrium to be achieved for this gas, although the same need not be true for oxygen. Since the ratio between alveolar pressures of oxygen and carbon dioxide is known, and the actual pressure of the latter is also known, the alveolar oxygen pressure is easily calculated. The difference between this and the arterial oxygen tension, the so-called alveolar-arterial oxygen gradient, is a measure of the degree to which equilibrium between gas and blood is achieved. This gradient normally amounts to only 4 or 5 mm. Hg, but it may be greatly increased in disease. It is possible to carry the analysis still further, using data collected while the patient is breathing different oxygen mixtures, and ultimately to determine how much of the defect in oxygenation of the blood results from alveolar membrane disorder and how much from shunts or unequal distribution of blood and air through the lung. Actually, the diffusing capacity of the lung for oxygen can be measured in this way. The diffusing capacity is defined as the volume of oxygen which can pass from alveoli to blood per minute for each millimeter of mercury difference in oxygen pressure between alveoli and blood. This sort of detailed analysis should be of great help to our understanding of pulmonary disease.

It is interesting that estimates of the diffusing capacity of the lung for carbon monoxide were made by Marie Krogh nearly forty years ago, taking advantage of the special properties of this gas. A new carbon monoxide method with many refinements has recently been developed[15] and is in use. From the diffusing capacity for carbon monoxide one can estimate the diffusing capacity for oxygen. Determinations of oxygen diffusing capacity by this means agree reasonably well with those made by the technique described above.

Some studies have appeared lately on the distribution of inspired air throughout the lung. It appears that the alveolar distribution of inspired air is far from uniform, even in normal persons[16]. The ratio of alveolar ventilation to blood perfusion also varies considerably in different parts of the lung and is altered by a change in body position[17]. In the upright position the upper lobes have much less blood flow for a given amount of ventilation than do the lower lobes; in the recumbent position, the relation is reversed. Serial observations on the rate at which nitrogen is washed out of the lung during oxygen breathing have been made by Robertson and colleagues using a mass spectrometer[18]. These observations also indicate unequal and variable ventilation of different lung regions in normal subjects. Similar results can be obtained with simpler analytic equipment, using helium. Application of these methods to patients with emphysema yields some striking results. Very large portions of the lung volume may receive only a very small fraction of the minute ventilation.

This progress report on normal and pathologic pulmonary physiology is not intended to be complete but only to indicate certain of the principal lines of activity.

In some instances the bearing on clinical medicine is still very remote. It is quite probable, however, that most of this work eventually will affect significantly, even though indirectly, the diagnosis and treatment of pulmonary disease.

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DUODENAL ULCER*

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Mr. Chairman, Ladies and Gentlemen: It is a distinct honor and privilege to be invited to give the Horsley Memorial Lecture. This is true not only because of the influence Dr. J. Shelton Horsley exerted on Southern and American Surgery but also because of the distinguished men who have appeared on this platform in his honor and because of your presence here tonight. It is perhaps not appropriate for an outsider to attempt to bring to you a detailed account of all of Dr. Horsley's accomplishments. The topic is too vast and many of you are already familiar with it. However, a brief recounting of some of his accomplishments might be appreciated by the younger members present.

Dr. J. Shelton Horsley was born in 1870 and lived vigorously for 76 years. As a boy he had an inquiring mind as evidenced by his exploration of the insides of various snakes, frogs, etc., on his father's farm. Rumor has it that he borrowed $50.00 to buy a horse when he started in practice and then went back and got $5.00 more from the same source to finance his first bit of medical research. Shortly after the turn of the century when Dr. Horsley settled in Richmond, surgery in general was of the fast, rough and bloody variety. He introduced an era of carefulness and gentleness based on a knowledge of anatomy and an understanding of physiology and pathological physiology. At his own expense he built and equipped an experimental dog house here on 13th Street. And it was here that the ground-work for the vascular and intestinal surgery was done that later gained him world fame.

The influence Dr. Halsted of Baltimore had on the training of young surgeons is well known and almost legendary. He started 20 years earlier and has more students in teaching capacities than Dr. Horsley. But I believe it can be truthfully said that Dr. Horsley has more outstanding pupils in surgery than Halsted ever had. Perhaps Dr. Horsley inculcated two principles above everything else in his assistants and associates. First, the investigative spirit. His interest extended to all phases of medicine. Nothing that was unusual or unexplained failed to interest him. Second, honesty—a desire to face facts rather than the practice of self deception. He was a man of strong convictions who spoke freely and frankly on any subject under discussion. He believed that words should reveal and not conceal the speaker's thoughts, and his listeners were never left in doubt about his stand on any question.

Limitations of time prevent the enumeration of the many offices held by Dr. Horsley in local, state, regional, and national medical societies. More medical honors came to him than have been received by any other Virginian. He was the author of six books on surgical subjects, and he wrote more than 250 articles on surgical topics. He built and ran a hospital; he donated his own money to stimulate original thinking in recent medical graduates, and no less than fourteen operative procedures or technical aids were devised by him. The two that are more closely associated with his name are pyloroplasty and a modification of the Billroth operation for treatment of ulcers.

You will note that I have not included the professorship of the Principles of Surgery among his many honors. To some present incumbents of such positions in other medical schools, it might seem doubtful that they should be included.

As one reviews Dr. Horsley's life and work there can be no doubt but that he achieved greatness through honesty and hard work, the two attributes that are often mistaken for genius. In these times of easy money and the expectation of receiving something we didn't earn, more of us might attempt to emulate the attributes of the life of Dr. J. Shelton Horsley.

Ulcer of the stomach was apparently mentioned by Galen, and methods of treatment were given by Celsus; the first clear reference to ulcer is that of Donatus who, in 1586, published a description of a gastric ulcer near the pylorus with obstruction. In 1799 Baillie of London presented a drawing demonstrating a duodenal ulcer in association with multiple gastric ulcers. He, as well as most of his contemporaries and immediate successors, paid most

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attention to lesions on the gastric side of the pylorus. Occasional reports of duodenal ulcers, generally acutely perforated, were made in 1688, 1772, and 1872. Broussais, in 1825, was probably the first to describe an ulcer of the duodenum.

Gastric physiology had its birth before the end of the eighteenth century with the discovery by Spallanzani in 1775 that the process of digestion is principally one of chemical changes.

It is difficult to evaluate the absence of much reference to duodenal ulcer in view of the great preponderance numerically as compared to gastric ulcer in our day. It is noteworthy that Cruveilhier failed even to mention this lesion in the two memoirs he presented in 1856 to the Academy of Science in Paris, summarizing the clinical and anatomic observations he had made for thirty years. Similarly, Brinton, in 1857, in reporting his analysis of 1200 postmortem examinations, scarcely mentions duodenal ulcer, and in all of his writings Virchow makes no mention of duodenal ulcer but wrote considerably about gastric ulcer.

It is interesting that those symptoms which now are known and are considered to be definitely characteristic of ulcer were first recognized as far back as 1828. At that time John Abercrombie wrote, "The leading peculiarity of disease of the duodenum, so far as we are at present acquainted with it, seems to be that food is taken with relish and the first state of digestion is not impeded, but the pain begins about the time when food is passing out of the stomach, or two to four hours after a meal." He recognized that the pain was often directly referred to a particular spot and observed that "we should not be deceived either by the pain having remarkable remissions and the patient enjoying long intervals of perfect health, or by remarkable attenuation of the symptoms taking place under a careful regulation of diet." I doubt that any of us can be more accurate today.

In 1865, Krauss reported the first comprehensive study of duodenal ulcer, and gathered statistics in regard to eighty cases, about 90 per cent of which were men. In the United States, up to the beginning of the twentieth century, very little attention was paid to duodenal ulcer. O'Hara, in 1875, presented the details of the first case of penetrating duodenal ulcer to be reported, before the Philadelphia Pathological Society. As late as 1889, Pepper said "All are agreed as to the rarity of duodenal ulcer; it is doubtful if more than 70 authenticated cases are on record."

Of diagnostic aids, analysis of gastric content was by all odds of greatest importance during the latter half of the nineteenth century. The growth of its use was tremendous. In fact, at the time it overshadowed interest in other fields. With postmortem, and subsequently surgical studies, the opportunity was presented for correlation of data. This was really the first serious, widespread attempt at correlation of physiologic and anatomic changes, so far as diseases of the stomach and duodenum were concerned, and it is the correlation of such data which has fashioned the fabric of knowledge of digestive diseases.

Gastric surgery did not really begin until 1881. The first partial gastrectomy was performed in 1879 but it was unsuccessful. Two years later Billroth performed the first successful partial gastrectomy in a case of carcinoma of the stomach. And in the same year the first gastroenterostomy was performed, and five years later, the first local operation on the pylorus, pyloroplasty, was done. Thus, within a short period of time were described three of the principle types of operations for duodenal ulcer, two of which are in use today. So much for a brief historical background.

No one denies the great economic importance of peptic ulcer. Certainly, it is the most frequent cause for chronic and recurrent dyspeptic symptoms. Peptic ulcer is either becoming more common or a larger proportion of cases are being recognized and reported. A study of available statistics dealing with the incidence of ulcer, both gastric and duodenal, indicates that well over 10 per cent of all adults of the male sex have or have had an ulcer. A marked increase was noted after World War I. Some gastro-enterologists observed large numbers of acute gastric ulcers in young soldiers during and after World War II, a condition not frequently seen under ordinary circumstances. For both economic and humanitarian reasons peptic ulcer is a real challenge to the medical profession. It commonly afflicts the male citizen in the ratio of 4 males to 1 female, who has more than the ordinary amount of drive and energy, and it strikes him during his most productive years. The average age of onset of symptoms in patients with duodenal ulcer is between thirty and thirty-five years.

No single etiologic factor satisfactorily explains the development of every case of ulcer. An inter-

play between tissues destroying factors and tissue resisting influences in the duodenal region is generally recognized, but just what these factors all are has never been clarified. A requirement for the development of chronic ulcer is hydrochloric acid and pepsin to bring about rapid proteolysis of the devitalized tissue, and no doubt a great number of extragastric constitutional factors are significant not only in the initial development of the lesion, but in its characteristic tendency to recur. Among intragastric factors abnormalities in blood supply, injury to the wall of the duodenum from duodenitis, infection, allergy and syphilis could be considered influences capable of devitalizing tissue. Hydrochloric acid and pepsin are aggressive, proteolytic intragastric influences. There are a multitude of extragastric factors which may be important in ulcer production. It is a disease of man; lower animals are not susceptible, and it occurs in man only after he has been subjected to the influences of civilization. Lesions of the mid-brain, interbrain and cerebral cortex are often associated with acute ulcers of the esophagus, stomach, and duodenum. Vagal stimulation produces marked secretory changes. Thyrotoxicosis is a disease primarily of females with sympathetic excitability and gastric secretory deficiency. Ulcers are rare in such patients. Endocrine influences probably have some bearing because ulcers occur most often in males and are infrequent during pregnancy. Also, there is no striking difference in the incidence of ulcer in males and females before puberty. And, finally, psychic influences are without doubt important. It is common to see patients with reactivated ulcers after an accident or death in the family, or after severe stress and strain of one kind or another.

Taking into consideration all the factors that may have importance in ulcer production, there is no proof that ulcer ever develops unless the site of the ulcer has been subjected to the influence of hydrochloric acid and pepsin. If gastric juice is not essential, why does this ulcer develop in certain intestinal segments only when the surgeon exposes these areas to the action of hydrochloric acid and pepsin by anastomotic operations? In a series of 2200 proved cases of gastric and duodenal ulcers Palmer could not find a single patient showing complete and persistent histamine refractory achylia. However, reports have appeared recording the appearance of gastric and duodenal ulcers in patients with achlorhydria. Ulcer is almost unheard of in patients with pernicious anemia, a disease associated with deficient gastric secretion. It is true that the average mean volume and acidity of gastric juice is less in patients with gastric ulcer as compared with those having duodenal ulcer.

How important is gastric mucus? It normally protects the mucosa of the gastro-intestinal tract and may be concerned to some extent with ulcer prevention. It has been suggested that there is an inverse ratio between the amount of acid and mucus elaborated by the gastric mucosa. Experiments have shown that juice obtained by vagal stimulation contains both acid and dissolved mucin in high concentration. Mucin has only slight acid-combining power, but it does inhibit peptic activity.

In 1932, Ryle, an Englishman, stated "All surgeons and physicians, who undertake the treatment of this troublesome disease, must endeavor to preserve the studious attitude not lightly accepting opinions or submitting to the bias of their craft, and remembering always that they are not, in fact, concerned with duodenal ulcer, the lesion, but with duodenal ulcer, the disease, as it occurs and as it varies in individuals of special types and temper and differing daily circumstances. In each case, judgments must be based not upon the presence of an ulcer, but upon a proper understanding of the whole patient and the whole disease. Duodenal ulcer has general effects on the body and the mind as well as general causes in them, and no effect or cause can be neglected. It is, I believe, a just criticism of surgery and medicine in the present era, that they have concentrated on parts to the exclusion of the whole, and on technic to the exclusion of philosophy. In duodenal ulcer no less than in many other maladies, we have come to rely upon too narrow a pathology. In our therapeutic quest, we have been too little observant of physiological principles. We are all compelled by the magnitude of our subject to be something of specialists, but this should not necessitate an abandonment of that naturalistic outlook which marked the achievement of our old preceptors from Hippocrates to Hunter."

Adequate management for peptic ulcer must not be based upon a sketchy history, a gastric analysis and a routine roentgenoscopic study. Review of all of the etiological factors which may enter into its development and chronicity is the best preparation for approaching the problem of ulcer therapy. The adequately managed ulcer patient will receive treat-

ment not only for the particular ulcer and the symptoms which it has produced, but will be followed intelligently, every effort being made to prevent a recurrence or reactivity of the lesion. Adequate treatment for simple ulcer is the best prophylaxis against the serious complications of hemorrhage, perforation and obstruction which take a tremendous toll of lives each year.

As surgeons, I fear, that many of us have been too hasty in recommending discontinuance of medical therapy and advising operation. On the other hand, many internists and general practitioners have been rather slow in suggesting surgery. If we could all learn more about the patient and the natural history of ulcer, there should rarely be too much difference of opinion about a given patient. Except for the well known complications about which there is general agreement, it is my belief that every ulcer patient should have prolonged and adequately supervised medical advice. When this has failed, or has been temporarily successful and then repeatedly failed, surgery should be done. Such patients may lose several weeks from productive work each year and spend several hundred dollars for various medicines and laboratory studies. If surgical results were more nearly perfect, we could afford to insist on surgery earlier in the course of symptoms.

The course of many peptic ulcers seems to be predestined regardless of the type of therapy employed or even in the absence of treatment. This characteristic life history, passing through successive stages of tissue destruction and digestion with ulceration followed by repair within several weeks, is noted particularly in cases of duodenal ulcer occurring in the young adult male. One should not be satisfied with a program embracing only the minimal requirements for relieving the symptoms of the immediate attack.

It is proper for both internist and surgeon to ask, what the therapeutic requisites for the rapid and efficient healing of a chronic peptic ulcer are. The first is one that most surgeons have insisted upon for all healing processes, namely rest. This embraces a reduction in both the motor and secretory activity of the stomach. Motor rest is largely a matter of proper diet and the avoidance of physical activity to curtail appetite and hunger contractions. The secretory activity of the stomach may be reduced by a diet of bland non-irritating food, incapable of markedly stimulating the chemical and hormonal phases of gastric secretion. Both motor and secretory activity may be reduced by the use of vagus depressants and central nervous system sedatives in addition to treatment of the nervous system as a whole. If one adds antacids to the above, then the therapeutic requisites will have been met. It should be re-emphasized that rest of the body and of the mind are essential to a maximum degree of gastric inactivity.

In most cases of uncomplicated ulcer in young people, healing will begin with the onset of therapy and be complete in six or eight weeks. The prevention of recurrence is then one of the most important phases of ulcer management. Patients should be carefully supervised from six months to a year after their symptoms have disappeared. Unless special care is taken at least 50 per cent of ulcer patients will develop recurrences previous to five years from the beginning of treatment. These are the patients who have been unable to make the necessary adjustments in their method of living, or have prematurely discarded any semblance of an ulcer regimen. Unfortunately, these are the patients who after, usually, several recurrences, fall to the lot of the surgeon. The decision as to whether surgery should or should not be done in a given patient, excluding those with complications, is not an easy one. It is not good reasoning in my opinion to accept a patient for surgery because he has been unwilling or unable to follow a good medical program. Patients who have surgery should follow a rather strict ulcer regimen for months or years after the operation. If they refuse proper treatment before operation, the surgical results are apt to be jeopardized. It is true that gastric resection is a fairly strong incentive for regulated living and I have so used it on rare occasions but the results have not been too happy sometimes.

We can all agree, I believe, that every patient with an uncomplicated ulcer is primarily a medical problem. Indications for surgery should be based on the pathology of the ulcer and the clinical status of the patient, with the ulcer. Uncomplicated ulcer is not any more quickly healed by surgical than by medical means. The patient with a marked x-ray deformity of the pylorus needs an operation, probably partial resection. Permanent cure by medical management rarely occurs. The patient with a history and roentgen demonstration of a perforated walled off ulcer needs surgery, again probably par-

tial resection. The patient with continuous interdigestive hypersecretion and a high grade hyperchlorhydria presents one of the most difficult problems in ulcer management. Repeated recurrences develop in spite of adequate medical therapy. Marginal and jejunal ulcers are frequent after gastro-enterostomy but less so after partial gastrectomy. Such a patient probably needs partial gastrectomy and vagotomy. And, finally, the patient with ulcer not associated with hypersecretion occasionally will fail to respond satisfactorily to an adequate medical regimen. This patient needs partial gastrectomy. From 10 to 15 per cent of all sufferers from duodenal ulcer will require operation because of the disease as outlined above or for hemorrhage, perforation or obstruction.

Every surgeon who has had any real experience with ulcers can point to failures, which is not surprising since these patients in the main represent failures after medical therapy. It is true, however, that the operative mortality is low, around 2 per cent and the per cent of really good results. is high, approximately 85 per cent, and some of the remaining 13 per cent are greatly benefited.

A description of the various operative procedures which have been devised in the surgical treatment of ulcer is out of place here. But Dr. Horsley was a well recognized pioneer in his efforts to improve the surgical results of operative procedures. Until some 25 years ago, continental European surgeons were the principal advocates of radical ulcer surgery, the surgeons in the English-speaking countries preferring the more conservative procedures. Gradually, most surgeons have utilized the more radical operations. In this country particular stress has been put on the operation or operations which are followed by the highest incidence of achlorhydria.

It has long been recognized that there is a nervous or vagal, a gastric and an intestinal phase of gastric secretion. These terms refer to the fact that a secretion of gastric juice may be stimulated by impulses in the vagus nerve aroused reflexly by the sight, odor or taste of food, and also by the presence of food in the stomach or intestines. From experiments done mainly on dogs by various workers, notably Dragstedt of Chicago, it appears that approximately 45 per cent of the secretion in the stomach is under the influence of the vagus; another 45 per cent arises from stimulation of the antral mucosa in the stomach; and a final 10 per cent results from the presence of food in the intestines. Indirect data obtained from patients who have been operated upon, and from normal individuals suggest that the experimental data apply to humans. It, therefore, seems likely that some of our poor results can be explained on the basis of the operation not having been the correct one for the particular patient. Does it not seem probable that the importance of this or that phase of gastric secretion will vary from individual to individual? It may be possible after prolonged experience with a battery of secretory function tests done before and after operation, to more correctly pick the operation that will more certainly reduce the secretory activity in the stomach of a given patient.

The advocates of partial gastrectomy base their claims for superiority of this procedure upon: (1) removal of the ulcer-bearing area (perhaps not too important in the duodenum), (2) reduction in or complete disappearance of gastric hydrochloric acid. (3) reduced incidence of marginal and jejunal ulcers, (4) fewer recurrences, and (5) possibly the removal of diseased "gastritic" mucous membrane in some cases.

Proponents of vagotomy with gastro-enterostomy claim as much protection against recurrent ulceration as a three-fourths gastric resection. They also claim vagotomy with gastro-enterostomy to be safer and free from side effects when the procedures are properly done. And failures are still correctible by gastric resection. Approximately 3 per cent will require gastric resection for marginal ulcer. They report a mortality of less than one per cent as opposed to a mortality of 1 to 5 per cent with resections. Good results are claimed in 90 per cent of patients followed from two to five years after vagotomy with gastro-enterostomy. I believe that all older surgeons accustomed to doing resections will admit that these results are as good or perhaps slightly better than we are able to attain with resections.

If the final results are so nearly the same, and several studies indicate that they are, just what procedure should we use? There can be no doubt that Dragstedt and others have taught us a great deal about vagal stimulation and gastric secretion. We have not learned all of the effects of separating other abdominal organs from vagus control. It is, therefore, the belief in our clinic that for the present we should more carefully evaluate gastric secretory tests prior to surgery, and attempt to do the par-

ticular operation on the particular patient that is calculated to do the most good. Practically it means partial resection alone in most instances, or partial resection and sub-diaphragmatic vagotomy for certain types of patients, especially those we estimate to have more than average psychological difficulties and response to their disease, and a marked response to vagal stimulation. It also means vagotomy and gastro-enterostomy in patients that have an inflamed, adherent posterior wall ulcer, in whom common duct injury, pancreatic damage and duodenal fistula are real hazards.

Perhaps no group of patients are more grateful than the ulcer group who have had the proper indications for surgery and have had the correct procedure done for their particular disease.

The Public Relations Committee of The Medical Society of Virginia has long urged component societies to work toward a better press-radio relationship.

In this connection, the Committee was quite impressed with a recent Public Relations Bulletin of the West Virginia State Medical Association which is reproduced for your information.

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The press representative is interested in the exact truth.
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one to supply news to the public.
Both prefer facts to rumor.
Both like help on the difficult and unpleasant cases (as well as the easy ones).

IN WORKING WITH REPRESENTATIVES OF THE PRESS ALSO KEEP IN MIND:

Do not ask for favors.
Do not resent articles.
Do not deny minor errors.
Do not forget to say "thank you."

THE TREATMENT OF COARCTATION OF THE AORTA WITH HOMOLOGOUS GRAFT— Report of Case*

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Case Report. On February 6, 1952, a 20-year-old white male was admitted to the Division of Thoracic and Cardiovascular Surgery, Medical College of Virginia Hospital.

Hypertension in the upper extremities was first detected during an examination for employment. Several months prior to this the patient had suffered slight headaches. He had noted a pulsating, throbbing area in the right side of the neck during most of his life. He denied any other symptoms.

On physical examination the blood pressure in both arms ranged from 160/110 to 180/110 at rest. On severe exercise the blood pressure rose to 200/120. Blood pressures could not be obtained in either leg.

The patient was well-developed and well-nourished with muscular shoulders, but the lower extremities were somewhat less developed. A strong bounding pulsation was easily visible in the suprasternal notch. The radial pulses were forceful, but the femoral and dorsalis pedis pulses could not be palpated. Collateral channels were palpable in the axilla and along the medial border of both scapulae; at the latter sites pulsations were visible and a bruit was audible. A systolic murmur was heard over most of the precordium and also in the interscapular region. The aortic second sound was accentuated and louder than the pulmonic second sound. The lung fields were clear.

Laboratory examination was non-contributory. X-ray and fluoroscopic examination revealed no significant cardiac enlargement. The aortic knob was inconspicuous. A pulsatile prominence along the left border of the superior mediastinum was thought to represent the left subclavian artery. Notching of the ribs was apparent bilaterally from the third rib downward. The electrocardiogram was normal.

On February 18, 1952, the coarctation together with adjacent narrowed vessel was completely resected (Fig. 1). A patent ductus with a very tiny lumen was present. The coarctation was found to be complete. An end to end anastomosis was attempted initially and the posterior layer completed. However, it was apparent that the suture line was unsatisfactory because of extreme tension and the anastomosis was therefore taken down. The gap was bridged with a five centimeter aortic homograft which was slightly larger in diameter than the recipient aorta (Fig. 2). The aortic homograft had been obtained five days previously from a 29-year-old white male within four hours after death. It had been preserved at seven degrees Centigrade in Ringer's solution and 10 per cent homologous serum, to which both penicillin and streptomycin had been added.

Immediately postoperatively the femoral and dorsalis pedis pulses were easily palpable and these remained strong throughout the hospital stay. The blood pressure, however, did not fall immediately to normal levels but fluctuated between 135/90 and 165/110. At all times the pressure in the lower extremities exceeded that in the upper. Four weeks following surgery the blood pressure in the arms during rest was obtained at 120/80 with the pressure in the legs approximately 10 to 20 millimeters higher than that in the upper extremities. One year after surgery the following values were obtained: 110/60 in the arms and 130/80 in the legs (Fig. 3). A Bucky chest film revealed no evidence of calcification in the region of the aortic graft.

Vascular transplantation with homologous artery grafts was first used in the treatment of coarctation of the aorta by Gross[1]. This clinical application was preceded by laborious experimental studies which demonstrated the comparative safety of the technic[2].

Resection of the coarcted site with end to end anastomosis is accepted as the most desirable surgical technic, provided an adequate lumen can be achieved. End to end anastomosis without adequate resection of the narrowed segment will be followed by incomplete relief of hypertension. An alternative method which may be used when end to end anastomosis cannot be accomplished employs the proximal divided left subclavian artery, which is usually greatly enlarged. Good results have been reported, especially when the coarcted site is divided or resected, and the subclavian artery turned downward

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for end to end anastomosis. Failure to avoid kinking or the use of a small subclavian vessel has led to unsatisfactory results in a significant number of cases.

Three situations may be encountered in which the use of a graft may prove desirable: (1) the finding of a long constricted segment, the resection of which creates a gap too wide to permit end to end anastomosis; (2) difficulty in approximating the divided ends of the aorta in some adult patients where there is loss of elasticity; (3) the presence of an aneurysm in the aorta just distal to the coarctation or in one of the adjacent intercostal arteries, necessitating resection of additional aorta. A moderately long constriction may combine with loss of elasticity in an adult patient to render end to end anastomosis impossible, as in our own case.

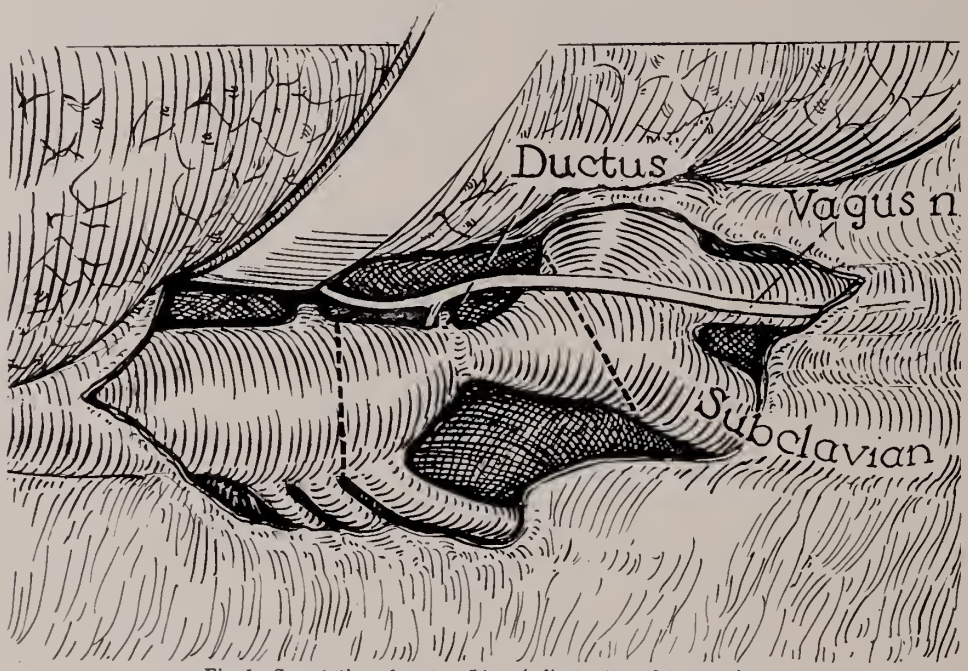


Fig. 1. Coarctation of aorta. Lines indicate sites of transection.

Although homologous grafting provides an expe-

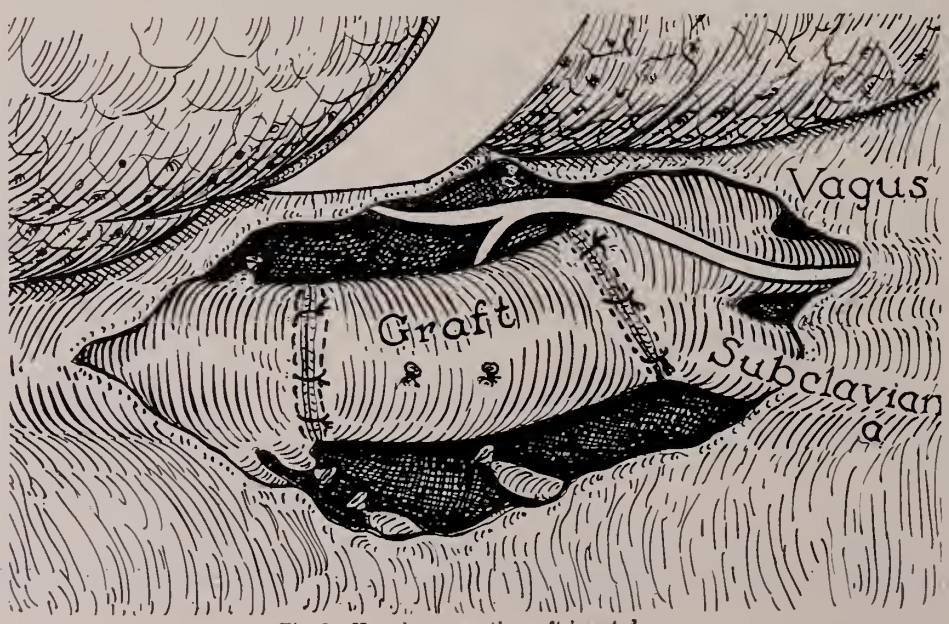


Fig. 2. Homologous aortic graft inserted.

dient method for dealing with certain special problems in the treatment of coarctation of the aorta, the principle of introducing an homologous graft into the human aorta cannot be accepted lightly. The theoretical hazards of this method are not to be minimized. Experimental studies by many individuals have indicated that such grafts are rapidly replaced by fibrous tissue derived from the host[3,4]. The lumen becomes lined by endothelium or by flattened fibrocytes; the muscle cells are almost completely replaced by fibrous tissue and the adventitia is re-enforced by scar. The original elastic tissue, although somewhat fragmented and compressed, survives for an indeterminate period. This persistence of elastic tissue is of considerable importance in preserving the integrity of the vessel wall in the face of serious degenerative changes. Calcium may be deposited not only in the wall of the graft but along the internal surface. Gross mentioned one patient in whom considerable calcium developed at the site of the graft as observed on the roentgenogram. These degenerative changes are alarming since they could lead to aneurysmal dilatation, dissection or mural thrombosis. Only a long period of observation will determine the ultimate safety of homologous aortic grafts.

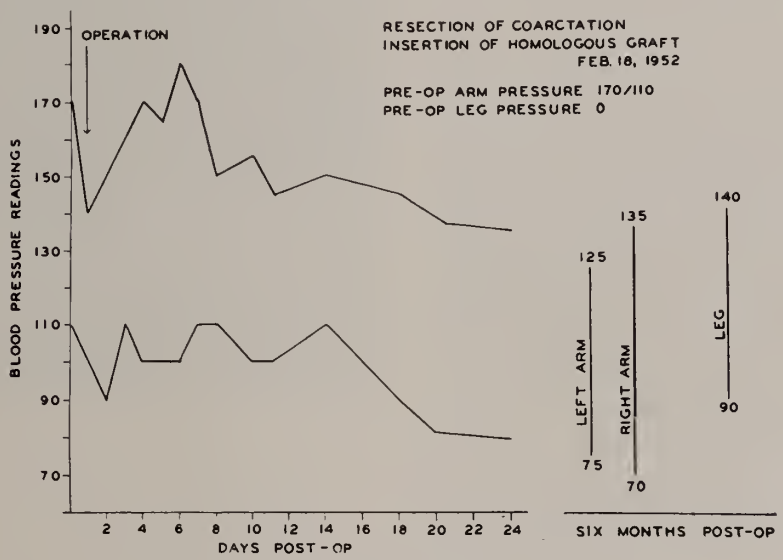


Fig. 3. Chart showing course of blood pressure during early and late postoperative periods.

Much experimental work has been undertaken in an effort to shed light on these and other problems related to aortic transplantation. The various methods of preserving vascular grafts will not be discussed. Heterologous grafts are somewhat unsatisfactory since they often undergo even more rapid and complete degenerative changes, and the incidence of thrombosis, rupture and aneurysmal dilatation is high. Fresh, viable heterologous grafts are less satisfactory than preserved or dead heterologous grafts. It is possible that technics may be found for reducing the biologic incompatibilities of heterologous vessel grafts, thus providing us with an excellent source of vascular transplants. Autogenous arterial grafts retain their normal histologic appearance, but this fact has no practical importance since grafts of this type are not available for the human aorta. A laborious technic has been described for creating an autogenous patchwork tube of adequate size from the splenic artery after sacrifice of the spleen[5]. This method, however, is not likely to be generally accepted as practical.

Autogenous vein grafts are more readily available and segments sufficiently large for aortic replacement might be obtained from the left innominate or left internal jugular vein without seriously impairing venous circulation. Autogenous vein grafts like autogenous arterial grafts remain viable, and indeed thicken considerably in response to increased pressure. Unfortunately, experimental studies indicate a high incidence of delayed aneurysmal dilatation of the graft and true aneurysm formation where substitution into the thoracic aorta is attempted[6,7]. Fascial or dermal wrapping may serve to prevent or delay this complication.

Gross has pointed out that the percentage of cases

requiring grafts is much higher among adult patients. Early aging of the vessels leads to loss of elasticity. Advice is often given to delay surgical treatment of coarctation until the patient has reached adolescence. It is hoped thus to avoid the subsequent formation of a second coarctation which might occur if resection and anastomosis were performed during childhood and the anastomotic lumen failed to keep pace with the enlarging aorta. This advice requires close examination.

From a technical standpoint these patients can best be operated on during early childhocd, when the aorta possesses maximum elasticity, the blood pressure is not excessively high and the aorta is small. Is retardation of growth at the anastomotic lumen significant?

Several investigators have shown that a serious restriction of growth of the anastomosis occurs when a continuous everting mattress suture of non-absorbable material (silk) is used[8,9,10]. The continuous everting suture forms a tight constricting band with very little more length than the actual circumference of the vessel. In our own previously unpublished studies*, carried out in young puppies, an average diameter stenosis (reduction in expected diameter) of 36 per cent and an area stenosis of 59 per cent occurred after completion of growth (Fig. 4). Thus we feel that this type of vascular suture should not be employed for end to end anastomosis in a growing vessel.

Somewhat better results have been reported when an over and over (Carrell) type suture of silk is employed since the loops of silk provide a much greater length before a constricting band is formed as the suture is straightened out during growth. Our results in growing puppies, however, do not suggest that this suture is as favorable as Johnson and Kirby and Sauvage and Harkins have reported in investigations on growing pigs. We found an average reduction of diameter of 32 per cent and reduction of area of 52 per cent at the time of sacrifice, whereas these authors had reported essentially no restriction of growth in pigs. Whether a specific species difference, whether the more rapid growth and greater absolute enlargement of the pig as compared to the dog, or whether a technical consideration is the more important factor in explaining these contradictory findings, we are unable to state. Our studies were technically satisfactory and to us at least convincing.

Likewise, our results with interrupted silk sutures were somewhat at variance with published reports of



Fig. 4. Effect of growth on vascular anastomosis. Continuous mattress suture of silk. Anastomosis performed on thoracic aorta of young puppies.
a. Above: Excised segment inflated to 115 mm. Hg.
Diameter stenosis: 36 per cent.
Area stenosis: 59 per cent.
b. Below: Retrograde aortogram.

studies in which growing pigs were used. Several investigators have reported no restriction of growth in young pigs when interrupted sutures are used. In dogs we found a 26 per cent diameter stenosis and a 45 per cent area stenosis (Fig. 5). If non-absorbable material is used, interrupted sutures will cause the least constriction.

We are impressed with the results obtained by several investigators with the use of catgut for vascular anastomoses. Chromic catgut employed as a vascular suture in growing pigs is completely absorbed and apparently causes no restriction of growth. These results seem quite valid although the experiments need to be repeated in other species. We have confirmed the feasibility of using fine chromic catgut as a vascular suture for large vessels and feel that it is probably the technic of choice when performing end to end anastomosis of the aorta in young children or infants.

Rarely surgery for coarctation may be required during infancy because of cardiac failure. If the

*These experiments performed under sponsorship of Dr. Thomas Burford, Washington University School of Medicine and Barnes Hospital, St. Louis, Mo.

diagnosis of coarctation of the aorta is made during childhood, it is probably best to proceed with surgery at an early age. By following this policy the greatest number of patients should be benefited. Only infrequently will end to end anastomosis be impossible. Occasionally a long coarcted segment will be found and the surgeon is then faced with a serious



Fig. 5. Effect of growth on vascular anastomosis. Interrupted sutures of silk. Anastomosis performed on thoracic aorta of young puppies.
a. Above: Excised segment inflated to 115 mm. Hg.
Diameter stenosis: 26 per cent.
Area stenosis: 45 per cent.
b. Below: Intravenous aortogram.

problem if the patient is a young child or infant. Although Sauvage and Harkins have recently claimed a significant degree of enlargement of homologous grafts inserted into growing pigs (littermates), this enlargement is inconstant and incomplete and, furthermore, may not obtain in the more slowly growing mammal[11]. In our experience homologous grafts obtained from adult dogs failed to show any growth when transplanted into young puppies (Fig. 6). The coarctation occurring in the recipient animal and resulting from failure of the homograft to grow led to hypertension.

It would seem advisable, therefore, to rely on the subclavian artery to bridge a long stricture in the young child if this can be appropriately used. Schumaker has described a technic whereby the subclavian artery may sometimes be enlarged and more accurately fitted to the distal aorta.

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Fig. 6. Failure of growth in homologous artery graft. Graft remains at almost same size as at time of insertion.

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BILATERAL TOTAL ADRENALECTOMY IN THE TREATMENT OF CARCINOMA OF THE PROSTATE

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INTRODUCTION AND HISTORY

Among all men dying of cancer, it has been found that the occurrence rate of carcinoma of the prostate is exceeded only by carcinoma of the stomach and bowel. It follows that with the life expectancy of the population in general increasing, treatment for advanced carcinoma of the prostate assumes an ever increasing importance. At the present time, 90 to 95% of all cases of carcinoma of the prostate are said to be too far advanced at the time of first examination for surgical curative measures. Jewett, in 1949, in a survey of all cases of prostatic cancer admitted to the Brady Urological Institute, found that radical prostatectomy as a definitive operation was applicable in only 11.2% of the cases. Bumpus, in 1926, reviewed 1,000 cases of prostatic cancer in the Mayo Clinic and found that of the patients with metastases at the time of first examination two-thirds died in 9 months time. It is evident then that with present diagnostic methods treatment of prostatic cancer, in a majority of cases, resolves into palliative relief of symptoms rather than definitive therapy of the primary disease.

Until 1941, the treatment of advanced prostatic carcinoma was limited to transurethral resection and suprapubic cystotomy to relieve urinary obstruction, and opiates and cordotomy to relieve pain. In that year, Dr. Charles Huggins and his collaborators presented a series of cases in which it was shown that orchiectomy was of considerable palliative value in the treatment of metastatic cancer of the prostate. Herbst in the same year demonstrated estrogens had a similar effect upon the same disease.

Improvement on such regimens is attributed to the removal, neutralization, or destruction of androgens. No actual cures have been reported, although the longevity and comfort of patients treated under such a program have been found to far surpass control series of untreated cases.

Despite such initial improvement on antiandrogenic measures, the patient with advanced prostatic carcinoma almost inevitably has returned with recurrence or extension of the malignant process. In 1946, Plumb reported the 5 year survival of patients with metastatic disease treated with estrogens to be only slightly better than the untreated cases. Huggins reported 55% of cases treated by orchiectomy failed to survive 2 years. It behooves us then to carefully scrutinize each new development in treatment of prostatic cancer.

Since the adrenal glands are known to produce androgen in considerable quantities, Huggins and Scott in 1945, working on the premise that prostatic carcinoma could be benefited by further elimination of androgenic hormone, performed bilateral total adrenalectomy on 4 patients with far advanced metastatic carcinoma of the prostate. At that time, of course, cortisone replacement therapy was not available and whole adrenal cortical extract and desoxycorticosterone (DCA) were used in substitution therapy. The first 3 patients failed to survive the immediate postoperative period, dying in adrenal cortical insufficiency. The fourth patient lived 116 days and died with symptoms of Addison's disease. However, there was some regression of the prostatic carcinoma noted in this case.

Since cortisone has been made available for substitution therapy, bilateral adrenalectomy has been successfully performed in a number of conditions, both in the experimental animal and in man. Ingle has been able to retard the growth of the notorious Walker 256 inoculable carcinoma in rats, both through adrenalectomy and the administration of large doses of cortisone. Similar results have been reported with other sarcomas and chondromas in laboratory animals. Unfortunately, carcinoma of the prostate is a rarity in laboratory animals and has never been experimentally reproduced in any animal. It has been found as a rare autopsy finding in only dogs and monkeys but has never been recognized in a living laboratory animal. It is, therefore, unfortunate that no comparison can be drawn be-

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*Read before the Richmond Academy of Medicine, Richmond, Va.

tween the adrenalectomized humans and animals with carcinoma of the prostate.

Harrison and Thorn in Boston have performed total bilateral adrenalectomies in 15 hopeless cases of malignant hypertensive vascular disease. Six of the 15 cases were alive over 18 months later with 5 considered to be improved and well. Significant and protracted fall in blood pressure was noted in almost 70% of the cases. Huggins has reported enthusiastic results from total adrenalectomy in recurrent and metastatic carcinoma of the breast. He has also performed adrenalectomy for a miscellaneous group of tumors, including chorioepithelioma, melanosarcoma and carcinoma of the lung, all without beneficial effect. At latest date, Huggins has performed over 60 bilateral total adrenalectomies with the last 56 cases being without operative fatality. The Memorial Center in New York has now performed 22 such operations, primarily on metastatic carcinoma of the prostate and of the breast. Other single case reports have also been published. It is acknowledged by all investigators to date that bilateral adrenalectomy has at least temporarily benefited a number of patients with advanced prostatic carcinoma. Why such improvement results has not been fully explained but the rationale for bilateral adrenalectomy in this disease may be summarized rather briefly:

1. Carcinoma of the prostate is adversely affected by androgenic hormone and is benefited by such anti-androgenic measures as orchiectomy and estrogen therapy.

2. The adrenal gland secretes rather large amounts of androgenic compounds. Actual adrenal cortical hyperplasia has been noted after intensive estrogenic therapy.

3. Certain adrenal cortical steroids not found in the urine of normal people have been demonstrated in the urine of patients with a variety of malignant diseases.

4. Certain experimental animal tumors have been inhibited by adrenalectomy.

Concrete indications should exist before total adrenalectomy in prostatic carcinoma is justified. These are:

1. Clinical evidence of advanced metastatic carcinoma of the prostate which has extended, rather than regressed.

2. Loss of response to both estrogen therapy and orchiectomy.

3. Failure of the patient to assume a role in society either because of pain or debility.

We should like to report 2 cases of total bilateral adrenalectomy recently performed by the Urological Service at McGuire Hospital, and to add our preliminary impressions.

Report of Cases

Case 1.—F. R., a 58 year old white male, had been under urologic treatment for 2 years for advanced carcinoma of the prostate with metastases to the bony pelvis, ribs and spine (Fig. 1). An orchiectomy had been performed in August, 1951, and



Fig. 1. F. R. Widespread osteoblastic metastases to L-1, 3, and 5 vertebral bodies.

he had been on large dosage of estrogen continuously since April, 1951. Since that time, progressively severe low back pain and posterior leg pain had required ever increasing dosages of narcotics. When narcotics failed to relieve his severe pain, intramuscular cobra venum had been used, also without success. His normal weight of 121 fell to 105 pounds. A gradual partial paraplegia state with an L-4 level developed with bowel incontinence and urinary retention ensuing in August, 1952. Along with this,

a sacral decubitus ulcer also had developed as the patient became bedfast. Sciatic root pain became excruciating and the motor paresis of his lower extremities became more severe. The prostate was hard, nodular, fixed, and extended beyond the confines of its capsule laterally. It soon became evident that some operative procedure, albeit cordotomy, prefrontal lobotomy, or adrenalectomy would be necessary to control the excruciating pain which kept not only the patient but the entire ward awake each night. A 10 day course of cortisone totaling 500 mgms. was administered to test the efficacy of a so-called "medical adrenalectomy" during the course of which some adrenal atrophy might be expected to ensue. Pain was relieved somewhat for 2 to 3 days, but never completely. Cortisone was finally discontinued when exacerbation of his sciatic root pain became so severe as to necessitate a continuous caudal anesthetic. Because the spine was so loaded with metastases and as a partial paraplegic state already existed, adrenalectomy was considered the procedure of choice over cordotomy. It was felt that with sufficient cortisone therapy, adrenal insufficiency would not prove to be an insurmountable obstacle for a later cordotomy should adrenalectomy fail. Consequently, bilateral total adrenalectomy was performed on September 4, 1952, using endotracheal general anesthesia. Operation was carried out through bilateral flank incisions, resecting each twelfth rib. No operative complications developed. The pathological report showed normal adrenal tissue. Postoperatively, oliguria, nitrogen retention, and edema was present for the first 3 days. This responded quickly to increased dosage of oral cortisone. This patient before operation had received 800 mgms. of demerol per day for more than a year prior to operation. He did not receive narcotics from the third day postoperatively until 3½ months later. His pain for the first 3 months was almost non-existent. He became ambulant with support. Both objective motor and sensory return was noted. His weight increased and his outlook on life changed considerably. There was almost complete atrophy of the carcinomatous prostate. No new metastases have been demonstrated. Recent X-rays have shown some increase in osteoblastic activity in the pre-adrenalectomy metastases. As stated above, there was almost complete absence of pain in the first 3 months and no narcotics were required. Gradually pain in the lower extremities similar but less intensive than before began to develop and narcotics were renewed after 3½ months. Intolerance to pain continued to develop and a cordotomy was found to be necessary 4 months after adrenalectomy. This operative procedure was performed at D-2 level, well tolerated by the patient but wound healing was retarded. Additional cortisone therapy was administered during the pre- and postoperative period of stress. No symptoms of adrenal cortical insufficiency have developed and the patient was relieved of symptoms in the lower extremities.

Case 2—J. G., a 53 year old white male, was admitted with severe lancinating pain in his upper abdomen and in both legs, of 18 months duration. There had been a 20 pound weight loss in the past 18 months and he had been unable to work since March, 1952, because of pain. In 1950 a suprapubic prostatectomy had disclosed an occult prostatic carcinoma. Immediate orchiectomy was performed and continuous estrogen therapy had been administered. Six months after suprapubic prostatectomy, no recurrence of carcinoma could be determined by digital examination. When first admitted to McGuire in July, 1952, a huge mass in the prostatic fossa almost filled the rectum and the patient was in partial urinary retention. Osteoblastic metastases were demonstrated in the bony pelvis and ribs (Fig. 2).



Fig. 2. J. G. Osteoblastic metastases involving both iliac bones, the sacral alae and 5th lumbar vertebra.

A transurethral resection was performed to relieve urinary obstruction. Because the patient had a positive blood serology, Argyll-Robertson pupils and other neurologic findings, several neurologic consultations

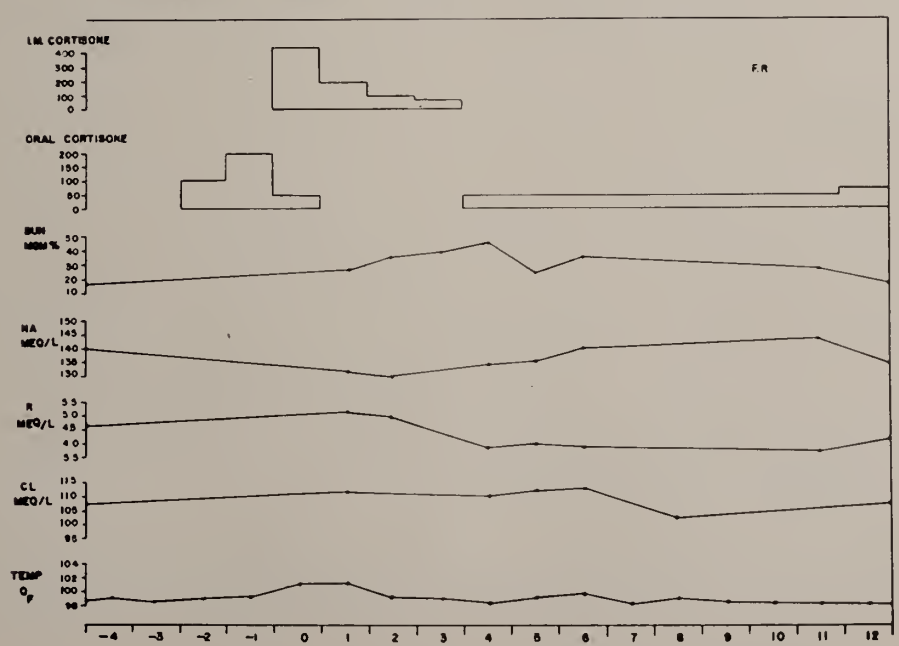
were requested. All neurologic consultants hesitated to ascribe the abdominal pain to tabes dorsalis. Barium studies, gastric analyses and gall bladder series failed to disclose primary upper abdominal disease. It was the opinion of the medical consultants that metastatic retroperitoneal nodes were the probable basis for his abdominal distress. Cortisone therapy 75 mgm. daily over a 12 day period was instituted without appreciable benefit.

Adrenalectomy was performed on October 11, 1952, with some trepidations. Although we were certain that the prostatic carcinoma was extending despite antiandrogenic influence, the effect which adrenalectomy might exert on the patient's abdominal distress could not be predicted. The contemplated course of action was presented to the patient who stated he would "do anything to try to get rid of the pain." Operation proceeded without serious complications in a technique similar to the first case. The right pleura was entered but was sutured without serious after effects. Although the adrenals were of normal size pathologic report stated bilateral adrenal cortical hyperplasia to be present. Postoperatively, no evidence of adrenal insufficiency developed and all blood chemistries in both cases, including serum sodium potassium, chlorides, carbon dioxide combining power, total eosinophil count, blood urea nitrogen, and total protein (Fig. 3) have remained within normal limits. The acid phosphatase in each case dropped precipitously for the first 3 weeks but gradually became elevated over the preoperative level (Fig. 4) after a period of 3 to 4 weeks. The alkaline phosphatase, at first elevated, gradually declined in both cases, but never to normal level. The significance of the variations in phosphatase activity is not known but has also been reported by West and Hollander in the Memorial Hospital group. Seventeen-keto steroid excretion has not ceased entirely, though low normal excretion values might seem to indicate that little androgen is being metabolized.

Subjectively, this second patient is markedly improved. Narcotics have no longer been necessary to control pain since the fifth postoperative day. The patient has remained ambulant and was discharged on the fourteenth postoperative day to return at an early date to his job as a paper-hanger. His weight has increased. X-rays showed neither progression nor regression of the lesion in the bony pelvis. Relief of pain had continued when last seen two months after adrenalectomy. He has not returned for follow-up examination.

It is beyond the scope of this discussion to consider all aspects of adrenal physiology. In brief summary, it may be stated that the secretion of the adrenal medulla, supplying epinephrine, is not es-

Fig. 3 - RESPONSE TO MANAGEMENT WITH CORTISONE ACETATE IN BILATERAL ADRENALECTOMY



sential to life, and no replacement therapy is necessary, either pre- or postoperatively, following adrenalectomy. The exact extramedullary source of adrenergic function is not known with certainty since extramedullary chromophil tissue has few depots in the human. It is essential that certain pre- and postoperative therapy be instituted to substitute for the loss of the adrenal cortex.

The older concept of adrenal cortex activity was that the gland produced many various hormones which could be grouped into three functional types. Much evidence now points to a newer concept which maintains that there is probably only one hormone which, in turn, is altered to serve three purposes. Regardless of theory, these functions may be divided into three main groups:

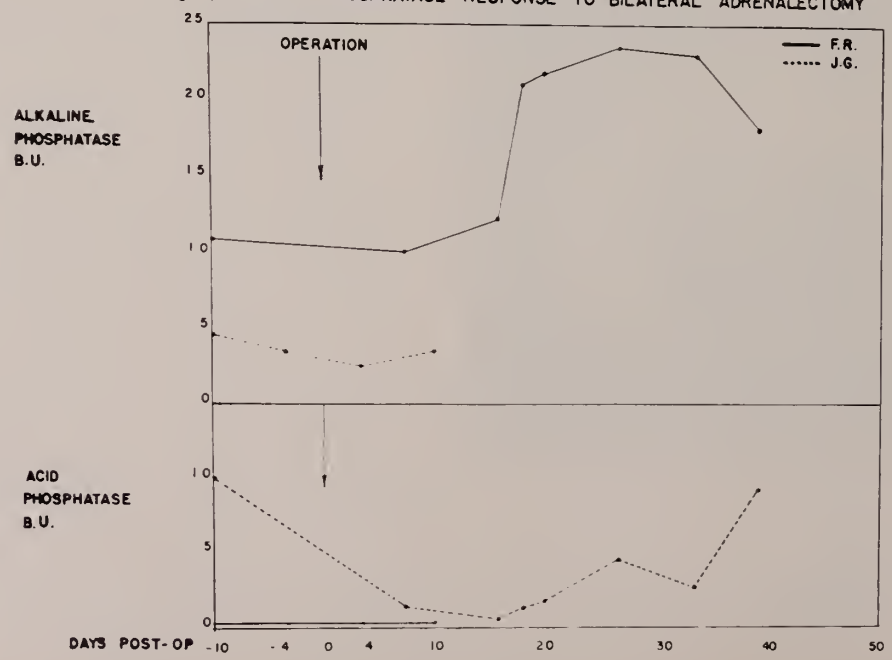
1. Sugar regulating, or cortisone effect.
2. Electrolyte regulating, or DCA effect.
3. Nitrogen regulating, or androgenic effect.

It is this last effect which we are attempting to eliminate by adrenalectomy.

In practice, it has been found that cortisone alone is essential for continuous maintenance therapy in the patient adrenalectomized for prostatic carcinoma. Initially, it is necessary also to supply DCA. Following the therapeutic regimen of Huggins DCA mgms. 5 is administered for 3 consecutive days beginning 1 day before operation. On the day of surgery 450 mgms. of cortisone is supplied. Two hundred milligrams of cortisone is administered both on the day preceding and the day after surgery. On the second postoperative day 100 mgms. is given alone and thereafter the patient is continued on a maintenance dosage of 50-75 mgms. of cortisone a day.

What objective evidence is there to gauge improvement following adrenalectomy? Huggins has reported an increase in serum albumin and an increase in hemoglobin. Actual temporary regression of osteoblastic bony lesions has been reported in some cases by both Huggins and West and Hollander of the Memorial group in New York. One case also showed regression of subcutaneous metastases biopsied both pre- and postoperatively. In one of our cases a complete paraplegic is now able to walk with aid and objectively has shown an improvement in motor and sensory involvement. We can explain this only as evidence of regression of his malignant disease. Three of 5 cases in the Memorial Hospital group series showed a marked temporary decrease in the serum acid phosphatase. Two of the 5 cases also showed sustained increase in the alkaline phosphatase values. These observers are hesitant to attach clinical significance to these variations in phosphatase activity, as phosphatase values in other cases were paradoxical. It should be stressed that

Fig. 4 - SERUM PHOSPHATASE RESPONSE TO BILATERAL ADRENALECTOMY



serum acid phosphatase values are often an inaccurate index in the diagnosis of metastatic carcinoma of the prostate. Although an elevation in serum acid phosphatase is supposedly pathognomonic of spread of prostatic cancer beyond the confines of the gland, a nation-wide survey of Nesbit and Baum indicated that 60% of 1150 proven cases of carcinoma of the prostate on admission had a normal acid phosphatase. Thirty-five per cent of all cases who had metastases on admission had a normal acid phosphatase, while 20% without metastases likewise showed an elevation in acid phosphatase values.

All writers on the subject agree that all patients feel better for variable lengths of time following adrenalectomy. In some cases the general well-being is of a permanent nature. They are stronger and gain weight. They are remarkably free of pain. We have seen this dramatic relief of pain in each of our 2 cases. It is quite striking. Of course, a temporary euphoria often results following cortisone therapy for any reason, and it is possible that some of the relief of pain is attributed to the replacement cortisone therapy. We feel that cortisone alone is not responsible for the subjective improvement in these patients inasmuch as both of our patients received adequate trial with cortisone before adrenalectomy with little or no improvement. Yet, after adrenalectomy and on half the original dosage of cortisone, neither has complained significantly of pain.

The effect on longevity in metastatic disease of the prostate cannot be determined at this date. Nearly 100% of all reported cases could be classified as terminal care cases at time of adrenalectomy. All reports on adrenalectomy for malignant disease are in the nature of preliminary reports. Huggins has reported 42 cases of metastatic malignancy of the breast and prostate. At least 18 of these cases have improved 7 to 11 months later at the time this paper was submitted for publication. The Memorial Hospital Group has reported less favorably on the ultimate prognosis with the average survival time in their patients having averaged 163 days. No patient was followed for more than 7 months, with 25% of their cases being still alive at the time of report. Definite instances of temporary inhibition of tumor growth were observed.

Our own cases have been followed for too short a period to draw any valid conclusions other than that the patients were made decidedly more comfortable for a period of several months. It can be stated that the operation is technically feasible, that it can be performed with reasonable safety and that the patient can be maintained on cortisone without elaborate laboratory control. In a certain number of cases actual temporary regression of the disease can be demonstrated in a period of the disease process when extension rather than regression is almost a hard and fast rule. It also seems established that bilateral adrenalectomy does not mitigate against further operative procedures for the relief of pain.

Certainly it cannot be claimed that total adrenalectomy is a panacea or cure for advanced prostatic carcinoma. It would seem that the operation does offer a temporary and in some cases a lasting respite from the ravages of metastatic disease. It would also seem to hold true that if removal of androgenic elements is of benefit in hopelessly advanced cases that early adrenalectomy, as has early orchiectomy, may prove of value in the Rx of early cancer of the prostate by removal of androgenic influence. To our knowledge such reports have not yet reached the literature and the exact status of bilateral adrenalectomy in the treatment of cancer of the prostate must await the passage of time.

Summary

1. Cancer of the prostate in the majority of cases is not diagnosed in the surgically curative stages.

2. Treatment of cancer of the prostate is most often resolved into the relief of symptoms due to metastases.

3. Orchiectomy and estrogens are antiandrogenic measures proven by the passage of time to have exerted favorable influences on metastatic disease of the prostate.

4. Since the adrenal glands are known to be responsible for five-eighths of the output of androgens, bilateral adrenalectomy has been advanced as a therapeutic measure to diminish androgen influences.

5. Reports of 2 cases in which adrenalectomy has been performed for prostatic cancer are discussed and the literature is reviewed.

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Antibiotics Proved Beneficial in Treatment of Dysentery.

Three antibiotics—terramycin, aureomycin and chloramphenicol—have proved beneficial in the treatment of sulfonamide-resistant strains of acute bacillary dysentery, it was reported in a recent Journal of the American Medical Association.

A study of 1,408 cases of the infectious disease treated in a Korean military hospital showed that four grams of any one of the three antibiotics, given in three doses over a 24-hour period, gave satisfactory results. Other forms of therapy were tried, but were unsuccessful. These included treatment with various other antibiotics and drugs, and such supportive therapy as bed rest, fluid and electrolyte replacement, sedatives, and nutritional supplements.

"The three antibiotics, aureomycin, chloramphenicol and terramycin, were all effective therapeutic agents, with aureomycin and terramycin slightly superior to chloramphenicol," the article stated.

"The rapid reversion from positive to negative cultures was striking. By the seventh day, all, as with terramycin, or almost all, as with aureomycin and chloramphenicol, were culturally negative and remained so for the follow-up period".

Although bacillary dysentery historically is a disease of major importance in such confined population groups as those in institutions and aboard ship, acute bacillary dysentery is not ordinarily found in general population groups in the United States, the article pointed out. However, it is common in other parts of the world where sanitation is poor.

The article was prepared by several Army doctors.

THE MEDICAL PROFESSION AND PUBLIC HEALTH*

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It is generally agreed that the Medical Profession and the Public Health services are primarily interested in the same thing, namely, the prevention of disease and the improvement of health. This being true, then, we will see that preventive medicine is not only closely related to both public health and private practice, but that full cooperation of both groups is essential if a real effective preventive medical program can be made worthwhile. Certainly the final success of any project, in the public health field, depends on the close cooperation and integration of effort of both public health leaders and medical practitioners.

In order to fully understand the functions of the various groups, we might consider them individually, and then think of the over-all group as the great medical team of which we so like to talk and of which we feel so proud.

The practice of medicine is a means of dispensing medical care to people who need it. The practitioner is the means by which this care is distributed. The practicing physician's role is not limited to his office or to the patient's room. He is expected not only to diagnose disease, and to treat and cure the sick, but to practice preventive medicine and sanitation wherever he goes. Although an independent agent, he is an important cog in the preventive medicine machine.

He is certainly now, and will continue to be, a key man on the team of medical, public health, and allied health and medical service groups. There has been a time when he paid little attention to organized public health efforts. This attitude, however, has changed much in recent years. Instead of looking at public health activities with disinterested toleration, he is now enthusiastically eager to cooperate. He has seen what you can do and the great benefits which come to the practitioner, as well as to the public, from good, well organized public health services. The practitioner, particularly the general practitioner or family doctor, is a busy man. His work is demanding and takes his full time. Public health is a full time job too, so he, the practitioner, could not do a good job as a practitioner and as a public health officer. The practitioner can, however, see that the public health department gets his full cooperation, and he can try to see to it that every county in our nation is protected by an organized health department which is supplied with funds necessary to do the job all of us want. Because public health is a special field, requiring special training, the practitioner must rely on organized public health experts to map out programs in which he can cooperate. This is most important to all parties concerned for, with the full cooperation of the practitioner, many organized health projects may succeed, which otherwise would most assuredly fail.

That the medical profession knows the importance of public health to the profession, to the people, and to a needed preventive medicine program can not be denied. It is equally true that the American Medical Association, and its component societies, have always worked and fought for improved public health service.

The two planks upon which the American Medical Association was founded in 1847 were the establishment of public health service and the improvement of medical education. It would, indeed, be interesting to note the great advances made in each field during the past one hundred and six years. Certainly the medical profession has never ceased to be greatly interested in public health during that time. It is a matter of record that the medical profession, through the American Medical Association and its component Societies, has either instituted or actively worked for all sound public health legislation which has become law since that date. The most recent evidence of this interest is found in the objectives as listed by Dr. Bauer at the time of his inauguration as President of the American Medical Association. The third objective listed asks for extension of public health coverage to all areas lacking it. The medical profession should be proud of, and always ready to cooperate with, and support in every way possible this great branch of the profession which has done so much to help bring the best medical care and health in the world to our people.

Public Health, the other part of our preventive medicine team as a going concern, is largely a gov-

*Read before the annual Virginia Public Health Conference in Roanoke, Virginia, on May 13, 1953.

ernmental function which occupies itself primarily with the improvement of the health of the community as a whole. It may be defined as the obligation of the community to protect its members from the hazard of communal living and to promote community-wide health. Winslow defines it as the science and art of preventing disease, prolonging life and promoting physical and mental health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in the principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will insure to every individual in the community a standard of living adequate for the maintenance of health, organizing these benefits in such fashion as to enable every citizen to realize his birthright of health and longevity. This is a long and complete definition from which we must sense a great challenge. It does not cover too much, and we must work for no less.

We are familiar with the great work which has been done by our public health organizations in the prevention of disease by education and preventive measures. We must not inject into this great program, however, the idea that this must be the agency through which patients are treated, except where necessary to do so in order to help control disease which would be a menace to the health of other people in the community. Then, it must not be in conflict with the private practice of medicine. To do a good job, we must enlarge our program for public health and preventive medicine under the state and county health departments, and do it as far as possible on local and state funds. The plans must be well worked out by representatives of the practitioners and the organized health units, ever bearing in mind that our duties are the same, namely, the care of the sick and the prevention of illness. At the same time, we must remember that the primary function of the practitioner is the care of individual sick people, while the primary function of the public health officer is the prevention of illness in the community. There must be whole-hearted cooperation so that the function of neither group is usurped.

Public health is not socialized medicine but the strong right hand of organized medicine. It takes a place and fills a gap not possible for the practitioner to fill. To do this well, there must be unity of effort. Surely, your fine record of achievement deserves the wholehearted support of all practicing physicians. We must cooperate in the field, in the home and in the office where records must be kept and proper reports made. This is essential if worthwhile statistics are to be had.

May I say again that we are all working for the same thing? We have the same common goal, namely, the care of the sick and the prevention of disease. The health officer has chosen to enter full time government service, the practitioner has chosen to care for the individual sick or injured person on an individual or group basis. He works with the patient to diagnose and treat disease, while the public health service works with the community as a whole to prevent disease. The practitioner's nurse, technician and all helpers play their part, as do the fine and capable people who serve with the public health service. They are all on the same team and are all working for that same goal, namely, good medical care, good public health and good preventive medicine.

We have discussed the practice of medicine and public health. Let us now think of preventive medicine as the field in which we can best coordinate our efforts. Here we think of service rendered the individual which prevents him from having disease or the disabling results of disease. Here the practitioner and the public health groups work together in such organized services as pre-natal, post-natal, immunizations, and well baby clinics, school health services and periodic health examinations; also veneral disease and tuberculosis control and in instituting measures for prevention of cancer, heart disease, diabetes and mental disease, the treatment and care of crippled children from rheumatic fever, polio and other causes. Then comes rehabilitation in its many phases. The physician may make notable contributions to preventive medicine by providing opportunities for good periodic physical examinations; by participating in community programs for the prevention of accidents, such as burns, poisoning, falls and suffocation; also by helping in sight and hearing preservation activities and in looking after the millions of people past 65 years of age, and the 65,000,000 or more who are too fat.

There are many local auxiliary services in the health service available to the physician and there are many services in which his efforts are essential to the success of the public health service.

Public health and preventive medicine, like the practice of medicine, have seen many changes since the beginning of the century. Public health services dealt almost entirely with sanitation and communicable diseases when I entered medical college forty years ago. The chief duty of the public health officer at that time was largely that of quarantine officer. Only a few of the larger cities had full time health departments and health officers. I remember well Dr. Levy, who was the outstanding health officer for Richmond. I think he was doing some private practice at the same time he was serving the city as health officer. How well I remember, too, that great pioneer in public health, Dr. Ennion Williams, who was running and building our State Health Department on just a pittance of an appropriation. A grand job was done by each of these men.

Indeed, we have come a long way since that time. Good public health administration, well trained public health officers and better sanitation facilities, plus added funds, plus vaccines, chemotherapy and antibiotics have made the problems of communicable disease and environmental sanitation much less serious in recent years. It is inevitable, though, that other problems will enlist the interest and action of the community as well as the physician.

There is increasing concern among the public with the problem of aging and its concomitant of chronic diseases; with the early detection and prompt treatment of cancer, tuberculosis and diabetes; with the increasing high proportion of deaths from heart disease and accidents; with expanding populations, migrating populations, and the critical health problems of rapidly growing areas. All of these create many problems for the physician, and the health department. Different groups have different ideas about what is needed to be done. There are many sides to the complex problem. This may be well compared to communicable diseases. Every group comes up with different ideas as to needs. In communicable disease, like tuberculosis, to the health officer the care might seem adequate when all contacts are protected against the disease. The practicing physician would consider the treatment adequate when all signs of the disease had been eliminated. The social worker would add a program of rehabilitation and the patient might want reimbursement for time lost. These differences of ideas and needs will prevail in many chronic conditions. They must cause us all concern. The practicing physician and the patient cannot meet the ever increasing needs of this rapidly increasing population. The community is bound to make some effort to combat these serious problems. Those efforts will be less clumsy, less misdirected, less oblivious to the value of existing facilities, if the movement is guided by the health officer with his trained staff, and if in that guidance he has the understanding and support and wisdom of the practicing physicians in his community.

May I again urge better understanding and better cooperation between organized medicine, representing the private physician, and the public health profession, for their mutual benefit and, above all, the benefit of the public at large. We are all on the same team. We are working for the same cause. We must solicit the aid of all groups to our cause and we must all work together to win.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Poliomyelitis

COOPERATIVE PLANNING FOR TOTAL CARE

Poliomyelitis in Virginia is running approximately three to one in the number of cases in comparison with the same period in 1952. While it is impossible at this writing (the end of July) to predict the overall picture for this year, it behooves us to plan for the after care of those who have had or will have this illness. Possibly no other disease calls more urgently for good cooperative planning, which should be thoroughly and efficiently organized and persistently and patiently carried through. The epidemic in Wytheville in the summer of 1950 emphasized this fact and gave strong impetus to the progressive state planning which was already under way. As a result, Virginia today is fortunate in having a workable and satisfactory method of caring for patients with poliomyelitis and its after effects.

There is a large group that participates in the plan and its success is the result of the coordination of efforts of practicing physicians, hospitals and their specialists in various fields of medicine, local health departments, the State Bureaus of Communicable Disease Control and Crippled Children, the State Department of Education, the National Foundation for Infantile Paralysis, the American Red Cross, many voluntary organizations and interested citizens.

Charting the main course is the State Poliomyelitis Planning Group, composed of members representing the following organizations:

The State Health Department
The Medical Society of Virginia
The National Foundation for Infantile Paralysis
The American Red Cross
The Medical College of Virginia
The University of Virginia Hospital
The Virginia Hospital Association
The Virginia Graduate Nurses' Association
The State Department of Education
The State Department of Welfare and Institutions
The Virginia National Guard

Early each spring the State Health Commissioner calls together this group to renew interest in the part each may play in carrying out measures to control poliomyelitis and to formulate plans for meeting any emergency that might be produced by this disease during the forthcoming season of prevalence.

The Poliomyelitis Committee of The Medical Society of Virginia, composed of physicians appointed by the President of the Society, serves as the consultant body and its members are subject to call at any time, either collectively or individually. The advice of this committee is of incalculable value.

When a practicing physician diagnoses a case of poliomyelitis, he should immediately notify the local health department and at the same time arrange to have the patient cared for, either in the home or in a hospital. If he believes that adequate care can be given in the home, he requests public health nursing supervision and other services from the health department. If he decides that the proper care for the patient calls for hospitalization, he makes the arrangements according to the financial status of the family. He appeals for financial aid from the National Foundation for Infantile Paralysis if the family cannot pay the hospital expenses.

As soon as the local director of public health has received notification of the case he institutes indicated public health measures and promptly notifies the State Bureau of Communicable Disease Control. From here the notification is relayed at once to the State Crippled Children's Bureau and the National Foundation for Infantile Paralysis. If the patient be hospitalized, in due time the diagnosis is sent to the physician and the health department by the hospital. At the time of discharge from the hospital, forms for the particular patient are completed and a letter is sent to the referring physician. The forms are sent to the state office of the National Foundation for Infantile Paralysis and are distributed by them to the Bureau of Crippled Children of the State Health Department, to the local health department responsible for the follow-up of the patient and to the local chapter. This simultaneous reporting means promptness of action and permits an opportunity for advance planning for follow-up care of the patient.

The attending physician arranges for orthopedic follow-up care when this may be needed. He asks the local health department to have the medically

indigent patient attend the nearest crippled children's clinic where orthopedic care and appliances are provided. In certain areas field physical therapists provide instruction through the clinic for parents and patients. The clinics arrange whatever further hospitalization may be needed for corrective surgery or intensive physical therapy. This additional financial burden is frequently borne by the National Foundation for Infantile Paralysis.

The local health department assists the family in making application to the local school board for the services of a bedside teacher for those children whose paralysis keeps them out of school. The local board receives financial aid for these projects from the State Department of Special Education. If the patient still be physically handicapped on completion of high school and attainment of the sixteenth birthday, he or she is referred to the State Department of Vocational Rehabilitation for special vocational training.

The problem of permanent care for the patient extensively paralyzed and in need of institutional care or private nursing facilities for the rest of his life has not been fully solved. The National Foundation for Infantile Paralysis and certain medical centers are doing what they can for many of these patients and a few very courageous individuals have found their own solution, but for the larger number of this group the answer is still being sought.

Monthly Report of the Bureau of Communicable Disease Control

	July 1953	July 1952	Jan.-July 1953	Jan.-July 1952
Brucellosis	2	8	28	21
Diarrhea & Dysentery	212	273	674	1384
Diphtheria	2	6	53	52
Hepatitis	198	57	1427	419
Measles	305	467	4424	15214
Meningitis (Meningococcic)	10	11	138	136
Poliomyelitis	157	54	193	74
Rocky Mt. Spotted Fever	17	22	39	44
Scarlet Fever	13	17	613	533
Tularemia	3	6	18	34
Typhoid & Paratyphoid	14	11	39	45
Rabies in Animals	35	17	297	327

Persistent Bone Pain May Be Indicative of Bone Tumor.

Persistent bone, joint or muscle pain, especially when the involved part is at rest, may be indicative of primary malignant tumor of the bone, it was reported in the July 4, J.A.M.A. Such pain is the most significant symptom of this type of malignancy, and usually precedes any objective evidence of the new growth, the article stated, adding:

"Occasionally, when the lower extremity is involved, a limp will appear before there is any pain. The character of the pain varies from a recurrent, rheumatic type of discomfort to a relatively sudden, intense pain. When it has become severe enough to produce disability, the patient usually seeks medical advice."

As is the case with any type of malignancy, the sooner a definitive diagnosis is made and the earlier adequate treatment instituted, the more favorable the prognosis, according to Drs. G. Edmund Haggart and Joseph W. Copel, Boston, with the department of orthopedic surgery, Lahey Clinic.

They expressed the opinion that the majority of cases of primary malignant bone tumors can be diagnosed on the basis of a careful history, complete physical examination, essential laboratory study and x-rays. Surgical biopsy should be performed before a decision is made regarding the type of treatment, they added.

Primary malignant bone tumor is a comparatively rare condition.

MENTAL HEALTH

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Regarding the Role of Psychological Testing in the Out-Patient Child Guidance Clinic.*

In the fifty or sixty years in which psychological testing has grown up there have developed a number of assumptions about the adequacy of such testing and about the use of psychological tests in the out-patient child guidance clinic. There are many ways, of course, in which tests are useful, not only in clinics but in educational institutions, business, industry, and the like. We are directing our remarks here alone to the out-patient child guidance clinic.

The most general assumption regarding psychological testing stems from psychological theory and from psycho-metric theory, namely, that any behavioral quality, trait or characteristic that exists, exists in some amount and can therefore be measured. This assumption has proved useful in many ways but with the advent of new theory and new practice and new insights in the clinical field, it is doubtful if this general assumption is any longer as tenable as it was a few decades ago.

Besides this general assumption there are several specific assumptions which should be named regarding psychological testing in the out-patient clinic. This list is by no means exhaustive, but it would seem that the following are at least important members of a list of specific assumptions.

1. The first assumption is that the psychological tests get at some "basic personality" structure. It is as if the tests were expected to clear away cultural differences, educational differences, ethnic differences, and other differences associated with reactive states, etc., and somehow "lift itself by its own boot straps" to the point where all attenuating conditions were either taken into consideration or were erased, or were partialed out.
2. A second assumption regarding psychological testing is that it gets to the "deeper layers" of personality. The "psychic surface" of life is generally disregarded and the test is expected, in the hands of the skilled clinician, to go straightforth to the deeper layers where the real "meat" lies.
3. A third assumption about the test is that it offers prognostications which are useful in managing the patient, in planning therapy, or in planning other ameliorative steps. It is, for example, assumed in this connection that whatever the psychometric picture is, it is a "true" account of the individual and therefore has much to say about how he will be six months, six years or two decades hence. The conditional nature of such predictions is largely overlooked.
4. Assumption four refers to the test's alleged value in arriving at an 'objective' diagnostic appraisal. Here, again, the test is expected to find the personality roots and assign the person to some one (or more) of the prevailing psychiatric pigeonholes. The vast unreliability of any nosological classification system is politely ignored and the person is regarded as an example of a psychiatric group with its own qualitative differences. This assumption is glaring enough in its inadequacies when practiced on adult patients, and is inexcusable among childhood patients.

The presence of these assumptions and many others not accounted for here has led to what the present writer feels to be a lack of judiciousness in using psychological tests. As a result of this lack of judiciousness, the so-called basic nature of the test results are over-stated and, correspondingly, the qualifying characteristics are under-stated. Testing always takes place in an interpersonal context, the test itself is a function of particular cultural conditions surrounding the development, validation, standardization and administration of the test; and the test is no more sensitive to reactive states (and other temporary circumstances) than it is to non-reactive states—this interpretive portion has to come from the clinician, not from the test *per se.*

Correspondingly the notion of depth in testing is over-stressed, and many of the features of personality that are acted out and lived out (more passively) in daily life are somehow considered as

*Article prepared by E. Lakin Phillips, Ph.D., Psychologist, Arlington County Guidance Center, Arlington, Virginia.

superficial; as a result much meaningful material is overlooked or it is not assimilated into the psychometric picture.

The prognostic value of the tests is considerably in doubt as recent studies of clinical students and a number of smaller studies of the prognostic ability of particular tests are concerned. It seems on the basis of much of the research evidence that the results of psychological testing have to be somehow raised to a higher theoretical level before its prognostic powers are fully utilized, if indeed testing is ever to have such prognostic powers.

These assumptions might well be replaced with more judicious ones regarding psychological testing, with better clinical observations before, during and after testing situations, and with more concern for the family context in which the child's problem is centered. Even the curtailment of the above mentioned assumptions would lead to less extravagence in generalizing about test results.

Many of our current practices in personality testing derive directly from earlier practices of intelligence and ability testing. It is not unlikely that personality testing must take a much different tack than ability testing. In a sense, the projective testing movement attests to this need, but careful scrutiny of the accomplishments of projective testing over the past two decades leaves its place in psychological theory much in doubt and reveals that projective testing is trapped somewhere between newer theoretical strivings and older, more conventional psychometric practices. The value of projective testing has not been clearly ascertained.

What, then, can we say about psychological testing as a practical measure in the out-patient child guidance clinic? Perhaps by locating clinics which have considerably different viewpoints regarding testing we can juxtapose the results such varied viewpoints and reach more solid conclusions regarding the actual use of psychological testing in work with children. It has been noticed in some quarters that psychological tests are not at all necessary, or at least are far less necessary than originally thought. In still other places, testing, numbering in hours, is done routinely on every patient entering the clinic; in such cases it is felt that the tests are indispensable. Still other clinics lie midway between these two extremes. More exchange between clinics, between psychologists in different clinics, and between psychologists and their own staffs within given clinics, is necessary before more solid ground regarding the uses of psychological tests can be effectively reached.

New Books.

Below are listed some of the newer books received at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be secured from the library under usual library rules:

Beaumont & Dodds—Recent advances in medicine. 13th ed. 1952.

Burstein—Fundamental considerations in anesthesia. 1949.

Cameron & Magaret—Behavior pathology. 1951.

Chobot—Pediatric allergy. 1951.

Hayt & Hayt—Law of hospital, physician and patient. 2d ed. 1952.

Hetzel—Virginia mental health laws in brief. 1949.

Hirsch—Pathology in surgery. 1953.

Horsley & Bigger—Operative surgery. Vols. 1 & 2, 6th ed., 1953.

Krieg—Functional neuroanatomy. 2d ed. 1953.

Kyser—Therapeutics in internal medicine. 2d ed. 1953.

Mengert—Postgraduate obstetrics. 1947.

Raab—Hormonal and neurogenic cardiovascular disorders. 1953.

Ruch & Warren—Working with psychology. 3d ed. 1948.

Sears—The physician in atomic defense. 1953.

Starr—Physiologic therapy for obstructive vascular disease. 1953.

Sullivan—The interpersonal theory of psychiatry. 1953.

Villiger—Atlas of cross section of the brain. 1951.

Vorwald, ed.—Pneumoconiosis. 1950.

Wiggers—Circulatory dynamics. 1952.

MEDICO-LEGAL NOTES

Examination for Rape*

Almost all physicians during the course of their practice will be called upon to examine alleged victims of rape. In a great number of cases the proof or disproof of this serious charge will depend primarily on medical evidence. Since conviction may carry very severe penalties, an accurate, carefully performed physical examination with all positive and negative findings in writing is essential if miscarriages of justice are to be avoided.

In essence it is the duty of the physician to decide as far as possible from his examination whether sexual intercourse has occurred or was attempted at the approximate time indicated. It should be noted however that the law does not require full penetration of the male organ into the vagina; "the least penetration is sufficient." The latter is usually a legal question although its ultimate determination may depend on the extent of the findings of the medical examiner.

The examiner should always note the date, the time and the place of the examination. The names of all persons present should be noted.

One should always obtain written consent for the examination if the victim is of legal age, or from the parent or legal guardian if one is dealing with a minor. The request of police or interested agencies is not sufficient.

The following should be carefully noted:

(1) Condition of clothing—disarranged, torn, stains, (blood, semen, grass, dirt, grease, etc.).

(2) General condition of victim—nervous, crying, calm, etc.

(3) Marks of violence about body—scratches, bruises, abrasions, stains, etc.

(4) Pelvic Examination—

(a) External—seminal fluid on or about genitalia or thighs, marks of violence, condition of labia and introitus (reddened, abrasions, lacerations, fluid or discharge, tenderness, edema).

(b) Internal (with speculum)—presence or absence of hymen. Condition of hymen or its remnants—thickness and texture of hymen—diameter (in inches)—signs of trauma or forced intercourse. Condition of vaginal mucosa, inflammation, etc., fluid in vagina. Condition of cervix—nulliparous or parous, evidence of menstruation or cervical discharge.

(5) Laboratory procedures—

(a) Preservation of foreign materials found on body or genitals—grass, leaves, dirt, hairs, etc.

(b) Stains on clothing—semen, blood, etc.

(c) Wet and dry smears of fluid from vagina: Keep swab for subsequent acid phosphatase test.

(d) Culture of purulent material for Gonococci.

(6) Make record of all physical findings and results of laboratory procedures.

(7) Examination of Children—

(a) One may not find marks of violence about the body since the child may be too small to resist forcibly or may not understand the significance of the incident.

(b) The vestibule and introitus of children are not uncommonly reddened normally and they may or may not have some thick white mucoid secretion.

(c) There may be marks of violence about the anal orifice, perineum or on the thighs.

(d) The condition of the hymen is especially important in children and it is often very helpful to make a rough sketch showing the type of hymen and the location of lacerations if any.

(e) Measurements are particularly important in children and one should always measure the anterior posterior diameter of the pelvis of the child and the relative size of the vaginal orifice should be measured in inches. This can be measured by fingers but the fingers then must be measured as the size of fingers vary and one examiner may use an index finger and another may use the little finger.

(f) If any redness is present it must be determined if this is due to inflammatory

*Contributed by: Geoffrey T. Mann, M.D., LL.B. and Harold L. Beddoe, M.D.
Chief Medical Examiner's Office, Richmond, Virginia.

conditions or violence. One should be especially careful to look for parasites, urinary infections, poor hygience, etc.

Finally, one must recall that there is considerable variation in the size, shape and structure of the hymen. A hymen may admit one or more fingers with ease and yet be virginal. Moreover old ruptures of the hymen do not of necessity indicate previous sexual intercourse.

It must always be borne in mind that presence or absence of any of the above does not necessarily prove or disprove an allegation of rape. The whole picture must be carefully evaluated. Remember, "Rape is an allegation easily made, hard to prove and harder to disprove by one accused no matter how innocent".

BOOKS

Operative Gynecology. By RICHARD W. TE LINDE, Professor of Gynecology, Johns Hopkins University and Chief Gynecologist, Johns Hopkins Hospital. Second Edition. J. B. Lippincott Company, Philadelphia. 1953. xxiv-902 pages. 409 figures and 7 color plates. Cloth. Price $20.00.

The first edition of this text was published in 1946 and with justification was well received. The present edition brings the work up to date. Old chapters have been revised and new chapters have been added on the use of pessaries, the surgery of the double uterus, culdoscopy, carcinoma of the cervix-in-situ, and sarcoma of the uterus. This book contains far more than just descriptions of operative technics. For example, there is discussion of symptomatology (as in the chapter on retrodisplacement of the uterus), of laboratory diagnosis(as in the case of cytology in the chapter on carcinoma of the cervix), of histogenesis (as in the chapter on endometriosis) and of pathology. Also discussed are pre- and post-operative care, the indications for and limitations of various operative procedures, and other subjects.

There are included descriptions of conditions and procedures which technically are not strictly gynecologic, but which should be familiar to all persons doing gynecologic surgery. These are presented on the rightful basis that gynecology is surgery, though it is more than just surgery, and that the gynecologic surgeon may encounter during an operation non-gynecologic conditions which require correction at the time.

The book is recommended for gynecologists, general surgeons, and house-staff officers. R.H.H.

Modern Treatment. A Guide for General Practice. By Fifty-three authors. Edited by Austin Smith, M.D., Editor of the Journal of the American Medical Association; and Paul L. Wermer, M.D., Secretary, Committee on Research, American Medical Association. Paul B. Hoeber, Inc., New York. 1953. xv-1146 pages. Cloth. Price $20.00.

This is an up-to-the-minute book designed primarily for general practitioners with the view of providing a practical, useful and sound guide in dealing with clinical problems of therapy. It has been compiled by some 54 outstanding authorities. In addition to the discussions on the therapy of specific diseases there are excellent background chapters bearing on patient-physician relationship; pharmacologic principles in treatment; principles of clinical immunology; sulfonamides and antibiotics; general principle of infection. There are also several chapters on diagnostic technics. Finally, and of great and growing importance, there is one chapter on toxicologic problems and one on poisoning from pesticides.

Despite the fact that many authors are involved, there is a minimum of overlapping and no disconcerting differences in literary style. The book is very readable and well indexed. The reviewer recommends this book most highly to every physician, but particularly to those in general practice.

H.B.H.

CURRENT TOPICS OF INTEREST TO MEMBERS OF THE MEDICAL SOCIETY OF VIRGINIA

A Question of Ethics

The following letter was referred to the ETHICS COMMITTEE as a basis for an article for the MONTHLY. It is the belief of the Committee that the letter presents the problem and lucidly answers the questions better than your Committee could. It is quoted with the permission of Mr. Duval.

Dear Dr. Archer:

Your questions posed some problems which I found difficult because of lack of information as to the several relationships involved. However, I obtained forms of the Blue Shield Subscriber Contract and the Participating Physician Contract from the Virginia Medical Service Association here, and the Principles of Medical Ethics of the American Medical Association from Mr. Howard, so will attempt a reply to your letter. These matters are controlled more largely by medical ethics than by legal consideration.

I should like to restate the question as I understand it, and if I am in error as to your problem, please let me know. Patient is a subscriber under the Blue Shield plan and also the holder of some kind of indemnity policy issued by an insurance company covering loss arising out of accident or sickness, including cost of medical care. He suffers an injury covered by the service contract and by the insurance policy, calls in a physician who is a Non-Participating Physician under the service contract, and obtains initial treatment for the injury and subsequent medical care. The Blue Shield contract only covers treatment for the injury, and on a statement rendered to Blue Shield in an amount covering all services to the patient only the charge for the treatment of the injury is paid him under the service contract, leaving an additional amount due the physician by the patient for the subsequent care. The physician also presents to the insurance company an identical bill covering all services rendered, and refuses to sign the claim of the patient against the insurance company until such claim is assigned to him, presumably as security for the payment of the bill covering all his services. Is this conduct on the part of the physician illegal or unethical, or both?

We start with the premise that the physician who is not in the Blue Shield plan can fix a reasonable fee for his services, which fee becomes an obligation of the patient. Having rendered the service, he may take proper steps within the frame work of the law to require the patient to pay the fee. In the case before us, the rendering of the service covered by the Blue Shield Plan entitles the physician to payment therefor by the Virginia Medical Service Association up to the limits set out in the Association's contract with the patient, and to payment of the residue of his charge by the patient. Up to this point there would seem to be nothing illegal and unethical in the case.

The physician, with part of his bill paid, submits a statement to the insurance company in an amount covering all services to the patient, and refuses to sign the patient's proof of loss until the claim of the patient under his indemnity policy with the insurance company is assigned to him. If the purpose of the assignment is to obtain payment of his full bill, (including that which the Association has paid), then he would seem to be guilty of conduct toward his patient which would be highly unethical and of such a nature that it would not be condoned by any court anywhere.

Of course, the motive here is important. If the patient is a bad financial risk, and the physician has reason to believe that the payment of the claim by the insurance company directly to the patient would result in the loss of the remainder of his fee, then the requirement of an assignment of the claim, with the understanding that the amount in excess of his proper charge will be paid by him to the patient, might be justified. In other words, unusual conditions might make the requirement that the claim be assigned a proper security measure on the part of the physician.

To make a practice of refusing to approve claims for payment without an assignment thereof, made to the physician, would seem to be not in keeping with the proprieties which rule in his profession.

As to the question of obtaining payment from Blue Shield and also from the insurance company, see the following language quoted from Section 6 of the Principles of Medical Ethics of the American Medical Association:

> "He (the ethical physician) should receive his remuneration for professional services rendered only in the amount of his fee specifically announced to his patient at the time the service is rendered or in the form of a subsequent statement, and he should not accept additional compensation secretly or openly, directly or indirectly, from any other source."

I am not concerned here with the question of the right of the patient to be indemnified for medical expenses under a policy purchased from an insurance company, and in addition thereto to be reimbursed for such medical expenses under the Blue Shield plan. These situations are often covered by pro-ration clauses in insurance contracts, but I believe the Blue Shield contract has been held not to be insurance. However, this is a question which is not involved in your inquiry.

If I have not answered your question to your satisfaction, please advise me to that effect. This is an interesting problem on which I am not too well posted.

Sincerely yours,

ROBERT C. DUVAL, JR.

The question of the patient collecting on more than one policy is not answered in the letter above. It seems to your Committee that the amount of money collected by

the patient is his business. As long as the doctor is justly paid for his services the financial dealings between the patient and his insurance carriers are of no concern to him.

After all the spirit of the Golden Rule is the underlying principle of Medical Ethics as well as all other ethical relationships.

Ethics Committee of The
Medical Society of Virginia

Civil Defense in Virginia

As the third anniversary of the writer's appointment as Director, Health and Special Weapons Defense, State Office of Civil Defense, approaches, it is felt that a report is due the physicians of Virginia, on what has been accomplished, what needs to be accomplished and our, alas, too many deficiencies.

One should not discuss Civil Defense as a pessimist or an alarmist, but as a realist. We Americans are confronted with a serious threat, a specific danger, which could, if not prepared for, result in the loss of our independence or our total existence as a free nation in a free world. We have been too naive. We have given our enemies financial, industrial and military aid. We have been too kind and trusting in respecting the rights of individuals and nations. Preparation for the future must be today—not tomorrow.

Any hostile attack against this country will be a calculated effort to disrupt production of war materials, to destroy factories, homes and goods, and to produce panic. Any bombing, particularly an atomic bombing, will produce tremendous numbers of casualties. No one knows in what manner an enemy may attack, but the nature of the weapon, or weapons, used will cause wide variation in the job imposed upon public health services, and for this reason the plan for emergency medical services must be broad in scope and flexible enough to cover any type of emergency. The problem confronting civilian health services is enormous, and is fundamentally one of medical logistics, one of time and resources against a tremendous number of casualties occurring in a fraction of a moment.

Civil Defense became a law on January 12, 1951, and House Bill 419, 1952 Acts of the General Assembly, Chapter 121, in Virginia gives the scope and importance of this law. From this law we see that the basic operating responsibility for Civil Defense is the individual, the family and then the local government. The responsibility of the State Government is to provide leadership and supervision in all planning for Civil Defense, and directions for supporting agencies in an emergency. The state participates in interstate planning and operations, it provides supervision, instructors and facilities for training programs, accepts and allocates such funds, supplies and equipment as may be provided by Federal or State agencies. Each locality, whether it be city, town, county or area, is responsible for establishing it's own defense program.

When we study the requirements of such an impressive program, one cannot but ask "What has been done at state level to implement this program?" First we have had appointed an advisory committee to the Director of Health and Special Weapons Defense (usually called locally the Chief of Emergency Medical Services). This committee consists of several representatives of the Medical Society of Virginia with a representative of the State Dental, Nursing, Hospital, Pharmaceutical, Veterinary and Mortuary Associations. Courses have been given to instructors in atomic energy and special weapons, radiological health training, and in radiological water sanitation. Sanitarians throughout the state have received schooling in ABC warfare as related to their specialty. Over 700 nurses have received an excellent course in the Nursing Aspects of Atomic Warfare, and several study clubs, with more being organized, are giving refresher courses and training to registered nurses. The practical nurses are now being recruited and will receive similar appropriate training. Actually the nurses program is listed by F.C.D.A. as the number two such program in the nation. Red Cross classes in First Aid, Nurses Aid and Home Care have been and are being taught throughout the state. A state guide for Emergency Medical Services has been published, as has a teaching manual for the Nursing Aspects of Atomic Warfare. A training manual for practical nurses is in preparation and a manual for Emergency Hospitalization is in it's final draft form prior to printing. Pilot courses in radiological monitoring have been completed and courses for trainees are expected to begin in eight universities and colleges this fall. Plans for the training of laboratory technicians are being studied, as well as those for a blood and blood expander program.

First Aid equipment has been ordered (most of it received) for 107 First Aid Stations in or near critical target areas, supplies for two mobile emergency 200 bed hospitals have been ordered and the hospitals organized. Penicillin has been ordered for state use which will be available to any locality until supplies from Federally operated depots become available.

Each city and county have been given a tentative outline of the things they could do to assist in preparation for disaster, either natural or from enemy action. Each local health department has been requested by the State Commissioner of Health to formulate a disaster plan whereby his local department could expand to cover the emergency.

What needs to be done now? We are at the point where actual organization, using names and people, should be carried out. If your city, town or county *should* have a First Aid Station, a rescue squad, or an emergency hospital, organize it now! Even without equipment, organize and use makeshift or training substitutes until actual supplies may be procured. A major portion of Virginia need never fear a bomb, but those areas may be needed for evacuation of refugees, or to send medical aid to a stricken area, or even just take care of the normal sick in an area depleted of physicians by the need of professional help in areas not so fortunate.

This program is not the idle dream of a few, but a

carefully thought out plan of some of the Nation's best minds. It is sanctioned by the Medical Society of Virginia, and through that society the local societies are being asked to participate in the program. We know that every physician in this state would be anxious to give his help in an emergency. Plan now, by cooperation with your local Civil Defense officials, so that should the crisis arrive we can be prepared.

W. R. SOUTHWARD, JR., M.D., *Director*
Health and Special Weapons Defense
State Office of Civil Defense

Industrial Health

The objectives and scope in the field of industrial health are quite different from those in workmen's compensation.

The principles involved are (1) that every industrial employe should have the best health possihle because he is then better adjusted to life and consequently a more effective and better producer, and (2) that medicine has a responsibility to provide health coverage for industrial workers. Here, also, lies a great opportunity for the practitioner to apply the principles of puhlic health.

Much assistance to this end is provided by full-time industrial physicians in large industries. Such physicians become specialists in the field. Although this concept picks out industrial workers as a specially privileged group, it may be argued that if their health needs are met, the menace of government medicine would be reduced.

Labor unions are sponsoring health services to an increasing extent. Fringe benefits, in organization and financing of medical care, not only for the worker but also for his family, are becoming of increasing importance in wages. Small industries and mercantile establishments are unable to retain the services of full-time doctor specialists in industrial health, except occasionally, where they combine to do it. Ninety per cent of the American industries employ less than one hundred workers.

Dependence for this medical service must he upon private practitioners in the vicinity of the plants to be served. Such practitioners need initial indoctrination and continuing training in the field of industrial health. The State Society makes availahle some training through the Section on Industrial Medicine and Surgery and the Public Health and Education Committee, augmenting postgraduate courses in some medical schools, for those doctors who already have an interest, but there aren't enough who have an interest to build up a backlog of trained medical personnel eager to take over this concept of combined preventive and curative medicine for the individual worker (six million in New York State).

The hig argument for a State Society hureau in this field is that some one has to sell to industry the idea of financial support of in-plant health services and, at the same time, induce and train practitioners to do the work so that every industrial employe, not just those working for large broad-minded industries, has opportunity for the best health possible. This is an up-hill job. After eleven years of such effort the Pennsylvania State Society succeeded in raising its number of physicians interested in industrial health from 215 to 373, of whom 99 are full-time and 274 part-time industrial physicians.

Stimulating physicians to become interested in this work and then making it possible for them to learn the work involves more than the State Society, but, at least, we should have the mechanism of cooperation with the National Association of Manufacturers, the American Management Association, the Division of Occupational Health of the U.S.P.H.S., and the A.M.A. Council on Industrial Health, which have very active programs for stimulating industrial medical service in both large and small industries. Industry and public health services are pointing out what they consider to be a very beneficial social change involving medicine. Medicine should be alert not only to fulfill its duty but also to protect private practice. The position of the part-time physician in this field warrants such guidance and protection as his State and county societies can give.

Aside from early detection of occupational diseases, prevention of injury to workmen, emergency care of injuries, and what every good practitioner ought to know, there are certain specific categories of knowledge involved: air pollution, illumination and vision in relation to occupation, effects of industrial noise and impaired hearing, occupational dermatoses, the older worker in an aging population, occupational cancer, employment of the physically handicapped, rehabilitation not covered by industrial compensation, job placement requiring knowledge of all in-plant conditions, multiple screening and periodic health examination, health education of the workers, human relations psychology, the scope of medical nursing in industry and how to carry out nontechnical projects.

Already a joint committee of the A.M.A. Council on Industrial Health and the American Academy of General Practice has launched a program for education of the general practitioner in this field. Considerahle activity is anticipated at once. Material has gone out to the state Academies of General Practice outlining the need for education in industrial health, urging them to set up specific courses, and giving the names of specialists in industrial medicine who have indicated willingness to help on the program. Members of the Academy will receive "credits" for such courses. The implications of such activity are obvious to our Committee on Public Health and Education, its Subcommittee on General Practice, and the Committee on Industrial Health.

Usually, the small industry executive also has to be educated. He has to be made to recognize that injury to workmen often means failure on his part. He has to be shown that absenteeism is increasing with the law covering disability insurance; that commonly quoted statistics show as high as 90 percent of absenteeism to be due to nonoccupational illness; that hecause he is paying for disability insurance he is increasingly involved in the health of his employees; that utilization of in-plant health

service reduces absenteeism 30 percent, occupational diseases 62 percent, accident frequency 45 percent, labor turnover 27 percent, and compensation insurance premiums 29 percent, and that better human relations exist between management and labor when sickness is minimized.

This work of interesting the plant executives and the doctors has to be done in specific localities where the uncovered plants and the doctors to cover them exist, but if county societies get no more than printed information and stimulation from the State Society and the A.M.A. Council on Industrial Health, the work bogs down. Moreover, it takes more than voluntary doctor personnel to interest the chambers of commerce and the individual industrial and merchandising executives. There is necessary a continuing coordination of such interests as health councils, organized labor, unorganized labor, associated industry, medical societies and the State Department of Labor, Welfare, and Health. There is necessary a coordinator, at least one field director, to institute pilot plans on an experimental basis.

There is plenty of opportunity to render the industrial workers of the State great services. The question facing the house is whether to recommend to the trustees allotment of funds to implement the opportunity at once by establishing a Bureau of Industrial Health with full-time director and clerical staff or to await further development of plans by the new Council Committee on Industrial Health. The present committee is Dr. Peter J. Di Natale, chairman; Dr. Anthony J. Lanza, who is also chairman of the A.M.A. Council on Industrial Health; and Dr. Frank R. Ferlaino, medical director of the New York executive office of General Motors Corporation. The forthcoming report of that committee warrants full and sympathetic consideration.

(From "Report of the President"— Annual Reports, Medical Society of the State of New York, 1952-1953— N. Y. State J. Med. April 1, 1953.)

American Medical Education Foundation

Chicago, Ill.
July 29, 1953

Marcellus A. Johnson, Jr., M.D., Chairman,
Virginia's Committee on A.M.E.F.
Roanoke, Virginia

Dear Doctor Johnson:

Thank you for your letter of July 15 in which you called my attention to certain irregularities in the Foundation's second annual report.

In checking back through the original source documents received in this office from the University of Virginia Medical School, we found that the wrong code number had been assigned through clerical error, therefore, when the figures came out in final form, the contributors who gave their money directly to the University of Virginia Medical School were incorrectly credited to the Medical College of Virginia.

Since there is no way of correcting those reports which have already been distributed, I should like to suggest that you follow your original plan of publishing this letter in the Journal of The Medical Society of Virginia and directing attention to the fact that any doctor's name that appeared in the annual report with the code number #75, should read #74, which is the code number of the University of Virginia Medical School.

Please accept my apologies for the injustice which has been done to you and the physicians of Virginia. Please rest assured, however, that this error was inadvertent and steps have been taken to preclude such an error in the future.

Thank you again for your interest and cooperation in this matter.

Cordially,

Hiram W. Jones
Executive Secretary
A.M.E.F.

President of The Medical Society of Virginia

PRESIDENT	YEAR OF MEETING
*Dr. James McClurg, Richmond	1821
*Dr. William Foushee, Richmond	1822
*Dr. William Foushee, Richmond	1823
*Dr. James Henderson, Richmond	1824
Meetings Discontinued.	
*Dr. Robert William Haxall, Richmond	1841
*Dr. Robert William Haxall, Richmond	1842
*Dr. Frederick Marx, Richmond	1843
*Dr. Thomas Nelson, Richmond	1844
*Dr. William A. Patteson, Richmond	1845
*Dr. William A. Patteson, Richmond	1846
*Dr. John A. Cunningham, Richmond	1847
*Dr. William A. Patteson, Richmond	1848
	1849
*Dr. Robert William Haxall, Richmond	1850
*Dr. Beverley R. Wellford, Fredericksburg	1851
*Dr. James Beale, Richmond	1852
*Dr. Thomas P. Atkinson, Danville	1853
*Dr. Carter P. Johnson, Richmond	1854
*Dr. H. C. Worsham, Dinwiddie	1855
*Dr. H. C. Worsham, Dinwiddie	1856
*Dr. James Bolton, Richmond	1857
*Dr. Levin S. Joynes, Richmond	1858
Meetings Discontinued	
*Dr. R. S. Payne, Lynchburg	1870
*Dr. R. S. Payne, Lynchburg	1871
*Dr. A. M. Fauntleroy, Staunton	1872
*Dr. Harvey Black, Blacksburg	1873
*Dr. A. G. Tebault, London Bridge	1874
*Dr. S. C. Gleaves, Wytheville	1875
*Dr. F. D. Cunningham, Richmond	1876
*Dr. J. L. Cabell, University	1877
*Dr. J. H. Claiborne, Petersburg	1878
*Dr. L. S. Joynes, Richmond	1879
*Dr. Henry Latham, Lynchburg	1880
*Dr. Hunter McGuire, Richmond	1881
*Dr. G. W. Semple, Hampton	1882
*Dr. W. D. Cooper, Morrisville	1883
*Dr. J. E. Chancellor, Charlottesville	1884
*Dr. S. K. Jackson, Norfolk	1885
*Dr. Rawley W. Martin, Chatham	1886
*Dr. Bedford Brown, Alexandria	1887
*Dr. Benjamin Blackford, Lynchburg	1888
*Dr. E. W. Row, Orange C. H.	1889
*Dr. Oscar Wiley, Salem	1890
*Dr. W. W. Parker, Richmond	1891
*Dr. H. Grey Latham, Lynchburg	1892
*Dr. Herbert M. Nash, Norfolk	1893
*Dr. Wm. P. McGuire, Winchester	1894
*Dr. Robt. J. Preston, Abingdon	1895
*Dr. Wm. L. Robinson, Danville	1896
*Dr. Geo. Ben Johnston, Richmond	1897
*Dr. Lewis E. Harvie, Danville	1898
*Dr. Jacob Michaux, Richmond	1899
*Dr. Hugh T. Nelson, Charlottesville	1900
*Dr. J. R. Gildersleeve, Tazewell	1901
*Dr. R. S. Martin, Stuart	1902
*Dr. J. N. Upshur, Richmond	1903
*Dr. Joseph A. Gale, Roanoke	1904
*Dr. Wm. S. Christian, Urbanna	1905
Dr. Lomax Gwathmey, Norfolk	1906
*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. Wm. F. Drewry, Petersburg	1908
*Dr. Stuart McGuire, Richmond	1909
*Dr. E. T. Brady, Abingdon	1910
*Dr. O. C. Wright, Jarratt	1911
*Dr. Hugh M. Taylor, Richmond	1912
*Dr. Southgate Leigh, Norfolk	1913
*Dr. Stephen Harnsberger, Catlett	1914
*Dr. Samuel Lile, Lynchburg	1915
*Dr. Joseph A. White, Richmond	1916
*Dr. Geo. A. Stover, South Boston	1917
*Dr. Ennion G. Williams, Richmond	1918†
*Dr. Ennion G. Williams, Richmond	1919
*Dr. Paulus A. Irving, Farmville	1920
*Dr. Alfred L. Gray, Richmond	1921
*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. John Staige Davis, University	1923
*Dr. W. W. Chaffin, Pulaski	1924
*Dr. Hunter H. McGuire, Winchester	1925
Dr. W. L. Harris, Norfolk	1926
*Dr. J. Shelton Horsley, Richmond	1927
*Dr. J. W. Preston, Roanoke	1928
*Dr. J. Bolling Jones, Petersburg	1929
*Dr. Charles R. Grandy, Norfolk	1930
*Dr. J. Allison Hodges, Richmond	1931
*Dr. I. C. Harrison, Danville	1932
*Dr. J. C. Flippin, University	1933
Dr. R. D. Bates, Newtown	1934
*Dr. F. H. Smith, Abingdon	1935
Dr. P. St. L. Moncure, Norfolk	1936
Dr. J. M. Hutcheson, Richmond	1937
*Dr. G. F. Simpson, Purcellville	1938
Dr. A. F. Robertson, Jr., Staunton	1939
*Dr. H. H. Trout, Roanoke	1940
Dr. W. B. Martin, Norfolk	1941
*Dr. Roshier W. Miller, Richmond	1942
Dr. J. M. Emmett, Clifton Forge	1943
*Dr. C. B. Bowyer, Stonega	1944
Dr. H. B. Mulholland, Charlottesville	1945
*Dr. Julian L. Rawls, Norfolk	1946
Dr. W. L. Powell, Roanoke	1947
Dr. Guy R. Fisher, Staunton	1948
Dr. M. Pierce Rucker, Richmond	1949
Dr. W. C. Caudill, Pearisburg	1950
Dr. C. Lydon Harrell, Norfolk	1951
Dr. John T. T. Hundley, Lynchburg	1952
Dr. James L. Hamner, Mannboro	1953

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

THE MEDICAL SOCIETY OF VIRGINIA

REPORTS FOR THE 1953 ANNUAL MEETING

Executive Secretary-Treasurer

Another year is being written into the history of The Medical Society of Virginia, and it might best be described as one of "steady progress". Once again, all credit belongs to the President, the Council, and members of the various committees, who gave unstintingly of their time and labor to make that progress possible.

The mid-winter meeting of Council was held February 19, and complete minutes can be found in the April issue of the Virginia Medical Monthly.

Committees: Thirty-three committees (12 Standing Committees and 21 Special Committees) were charged with the responsibilty of carrying out Society objectives. Twelve committees availed themselves of the facilities and services offered by Society Headquarters, which was somewhat disappointing since it was hoped that at least twice that number would utilize State Office facilities. This indicates the need of a closer relationship between the State Office and the various committees, and will definitely be one of the coming year's principal objectives.

Component Societies: There was no change in the number of component societies, the number remaining at 46. However, two component societies found it advisable to change their names because of certain political subdivision readjustments. The Elizabeth City County Society is now the Hampton Medical Society and the Warwick County Society is now chartered as the Warwick-Newport News Medical Society.

It is most encouraging to report that the State Office was represented at fourteen meetings or other activities of component societies. While this represents a considerable increase in the number visited, it is still far short of the State Office goal, and every effort will be made to more and more "carry" the Society to the membership.

Membership: Probably at no time in its history has the medical profession been more united than at present. In this connection, efforts to bring all eligible physicians into the Society have not lessened, and the results can be seen in the following statement:

Members reported July 31, 1952			2328
New Members	123		
Reinstatements	7		
		130	
Deaths	45		
Resignations	21		
Dropped	24		
		70	
Increase			60
Total Membership as of July 31, 1953			2368

American Medical Association Membership: The new billing procedure whereby statements for A.M.A. dues are mailed direct from the State Office has apparently solved most of the collection problems. Certainly there seems to be less confusion, and complaints have consequently been reduced to a minimum.

The latest count shows that 1750 members of The Medical Society of Virginia are members of the American Medical Association. This means that the Society is authorized two delegates to the A.M.A.

Economy: State Office personnel continued to focus attention on the matter of cutting operating costs whenever possible. A study was made of the cost of newsletter envelopes, and it was found that a substantial saving could be effected by buying from an out of town firm.

A "double up whenever possible" policy was adopted, with an excellent example being Current Currents and the Bulletins for Office Personnel. Both are being mailed together, which means a saving of over $23.00 each month. The importance of these economy moves cannot be minimized when it is realized that more material, informative and otherwise, is being sent the membership than ever before.

Selective Service: No decline was noted in the work required for the State Voluntary Advisory Committee to Selective Service. In fact, recent events would seem to presage an increase in work load. A new two-year doctor draft law (Public Law 84) was passed, and despite opposition in some circles, the end is not yet in sight. There are those who predict the need of such legislation for many years.

Few members of the Society are cognizant of the tremendous job being done by the Advisory Committee. This Committee has, without fanfare, processed 600 files of physicians, dentists, veterinarians and allied specialist personnel. Nothing has been left undone to insure, in every instance, a completely fair recommendation of essentiality or availability, based on positive community needs.

Meetings and Conventions: In addition to meetings of component societies mentioned earlier, the State Office was represented at both sessions of the A.M.A., five other national meetings and conferences, eleven special meetings (civic groups, etc.) and three meetings of state associations.

This large number can be attributed, in part, to the fact that several meetings of national interest were this year held in Virginia. Among these were the First Pan American Session of the World Medical Association (Richmond), and the National Rural Health Conference (Roanoke).

Woman's Auxiliary: There are ever increasing signs that the Auxiliary is well on its way to becoming one of the really important factors in the Society's progress. The State Office is assisting the Auxiliary in its statewide membership drive, and once again the Auxiliary is arranging for the supervision of the exhibit to be sponsored at the Atlantic Rural Exposition.

Representatives of the Auxiliary will attend future

meetings of Council and the House of Delegates, and will, as a result, make possible a closer liaison between the Society and Auxiliary.

Annual Meeting: The staff has worked closely with the Local Committee on Arrangements of the Roanoke Academy of Medicine in preparation for the 1953 Annual Meeting of The Medical Society of Virginia. It is to the credit of the local committee that the preliminaries have been handled smoothly and efficiently. An excellent scientific program, a new technical and scientific exhibit layout, and something new in the way of entertainment make this one of the most promising meetings ever.

The State Office is pleased to have had the opportunity to assist the Executive Committee with the groundwork for the 1954 Annual Meeting—which will be a joint affair with the District of Columbia Medical Society. The meeting will be held at Washington's Shoreham Hotel from October 31-November 3, 1954.

Personnel: There are at present five members of the State Office staff, which is one less than reported last year. The reduction was occasioned by the departure of Mr. Nash, who left the Society to accept employment in Baltimore. A replacement is contemplated in the near future.

The staff again extends a most cordial invitation to the membership to visit the Society Headquarters at 1105 West Franklin Street, Richmond.

ROBERT I. HOWARD, *Executive Secretary-Treasurer*

Delegates to the American Medical Association

New York, N. Y.—June 1-5, 1953.

1. The Distinguished Service Award was given Dr. Alfred Blalock of Baltimore.

2. Dr. Bauer in his final address as President stressed the necessity of providing programs for the medical care of the indigent and those suffering from chronic and degenerative diseases and felt that the Commission on Chronic Illness would have more constructive thoughts when its report is completed.

Dr. Bauer also brought out that the acts of a few unethical and irresponsible individuals brought criticism of the medical profession as a whole. He urged that more attention be paid to ethics and tradition in the medical schools and local county societies.

3. Dr. McCormick in his address as incoming President presented the following program for all societies for the following year:

(1) The necessity for providing additional placement services in certain sections of the country, to be operated by state or local medical societies, and the scholarship training programs of state societies were pointed out so that if possible every community will have access to a physician.

(2) Your committee recommends that the twenty-four hour emergency call service be extended throughout the country whenever possible.

(3) Each county medical society should immediately set up "Mediation Committees" to hear patients' complaints. Your committee suggests that the title "Mediation Committee" instead of "Grievance Committee" be adopted as the terminology.

(4) Dr. McCormick's suggestion of the physician-hospital relationship being clarified would be best handled by, as he suggested, a liaison physician-hospital at the state and county levels.

(5) It is recommended by your committee that each county medical society take an active interest in developing and expanding the voluntary health insurance program.

(6) The recommendation that the profession become more interested in all local activities is excellent and is approved by your committee.

(7) A keystone of the problem of public relations between the profession and the public rests in the office of the individual doctor and his contact with his patients.

(8) Your committee is of the opinion that publicity and press relations committees should be set up in all state and county medical societies that have not done so. In this manner, only proper information will be released to the public.

(9) Your committee agrees that there is need for unity within the profession and this can be accomplished by better ethical and professional relations. Individual physicians have the prerogative of disagreeing with decisions made by the House of Delegates at any time. However, their criticism should be of a constructive nature.

4. The House adopted the definitions of a Dental-Oral Surgeon as follows: "Dental-Oral Surgery is to be limited to diseases of the teeth and jaws and lesions of contiguous soft tissues related to diseases of the teeth and jaws but excluding malignancies."

5. Also adopted were the recommendations on accrediting Nursing Schools, the most important of which are:

(1) Reduce the present three year programs for Diploma Training to two years, and

(2) Recommend selected cases for advancement from trained practical nurse status to hospital diploma courses without loss of time. Also adopted was the suggestion that practical nurse programs be the joint effort of doctors, hospital administrators and nurses.

6. The House of Delegates adopted the following resolution regarding hospitalization and care for veterans:

"Part One—Your Committee recommends with respect to the provision of medical care and hospitalization benefits for veterans in Veterans Administration and other federal hospitals that new legislation be enacted limiting such care to the following two categories:

(a) Veterans with peacetime or wartime service whose disabilities or diseases are service-incurred or aggravated; and

(b) Within the limits of existing facilities to veterans with wartime service suffering tuberculosis or psychiatric or neurological disorders of non-service-connected origin, who are unable to defray the expenses of necessary hospitalization.

"Your Committee recommends that the provision of medical care and hospitalization in Veterans Admin-

istration hospitals for the remaining groups of veterans with non-service-connected disabilities be discontinued and that the responsibility for the care of such veterans revert to the individual and the community, where it rightfully belongs.

"The recommendation of the Committee with respect to the treatment of veterans with tuberculosis and neuropsychiatric disorders of non-service origin in federal hospitals is believed necessary at this time because of the inadequacy of local facilities designed to provide treatment for all such cases. It is the feeling of the Committee, however, that the entire question of whether the care of these patients is a local or a federal responsibility must be reanalyzed by the Congress. The rapidly expanding veteran population and the need for facilities for the remainder of our citizens afflicted with these diseases suggests that community facilities must be developed under state or local administration for the benefit of all. Preferential treatment for veterans with these non-service-connected disabilities cannot be continued indefinitely, in view of its detrimental effect on the health and the economy of the entire nation."

7. The House abolished the rule whereby approval is withdrawn when for two consecutive years the hospital does not obtain two thirds of the stated complement of internes. It also recommended further study by a committee composed of at least one-half members not connected with medical schools.

8. The House recommended to the Board of Trustees that professional and administrative audits be made in smaller hospitals not now being inspected for accreditation.

9. The twenty-sixth millionth subscriber to Blue Shield was introduced to the House.

10. The most important feature of the meeting to us Virginians was the election of officers, Dr. Walter B. Martin being elected President-Elect. The other officers are as follows:

Vice President: Dr. Carl H. Gellenthien, Valmora, N. Mexico.

Secretary: Dr. George F. Lull, Chicago.

Treasurer: Dr. J. J. Moore, Chicago.

Speaker, House of Delegates: Dr. James R. Reuling, Bayside, N. Y.

Vice Speaker, House of Delegates: Dr. E. Vincent Askey, Los Angeles.

Members, Board of Trustees: Dr. Edwin S. Hamilton, Kanakee, Ill.; Dr. Gunar Gunderson, LaCrosse, Wis.; Dr. Julian P. Price, Florence, S. C.

Member, Judicial Council: Dr. George A. Woodhouse, Pleasant Hill, Ohio.

Members, Council on Scientific Assembly: Dr. Henry R. Viets, Boston; Dr. Charles H. Phifer, Chicago.

Members, Council on Medical Education and Hospitals: Dr. Victor Johnson, Rochester, Minn.; Dr. Leland S. McKittrick, Boston.

Members, Council on Medical Service: Dr. Louis M. Orr, II, Orlando, Fla.; Dr. Robert B. Homan, Jr., El Paso, Texas.

Members, Council on Constitution and By Laws: Dr. Stanley H. Osborn, Hartford, Conn.

J. M. Hutcheson
V. W. Archer
M. H. Harris

STANDING COMMITTEES

Legislation

The Legislative Committee has no report to offer at this time.

J. D. Hagood, M.D.,
Chairman

Ethics

The work of the Ethics Committee, we are glad to say this year, has been minimum. No matter of serious import was brought before the committee.

Holcombe H. Hurt, M.D.,
Chairman

Judicial

No matters have been referred to the Judicial Committee for its consideration during the past year.

J. Morrison Hutcheson, M.D.,
Chairman

Finance

The financial report, including the budget for 1953-1954, will be presented to the Council at the House of Delegates at the annual meeting in Roanoke on October 18.

Harry J. Warthen, Jr., M.D., *Chairman*
Walter B. Porter, M.D.
Fletcher J. Wright, Jr., M.D.

Membership

All members admitted to the Society this year through component societies are as follows:

Dr. William Burdette Adams, Rocky Mount
Dr. Robert Dea Ailsworth, Jr., Keysville
Dr. Robert Harper Anderson, Alexandria
Dr. Evan Hamilton Ashby, Jr., Remington
Dr. Jean Jacobus Austin, Alexandria
Dr. Richard Norton Baylor, Richmond
Dr. Frank Smoot Beazlie, Jr., Newport News
Dr. William Jaspar Berry, Bishop
Dr. Raymond Scrivener Blackman, Charlottesville
Dr. Frank McFaden Blanton, Richmond
Dr. Wyndham Bolling Blanton, Jr., Richmond
Dr. Loyd Warren Bond, Ivanhoe
Dr. Armistead Page Booker, Charlottesville
Dr. Russell V. Bowers, Richmond
Dr. Henry Thomas Brobst, Roanoke
Dr. Lee Buckingham Brown, Charlottesville
Dr. George Minor Caldwell, Christiansburg
Dr. George Edward Calvert, Lynchburg
Dr. Noland MacKenzie Canter, Jr., Harrisonburg
Dr. George Benjamin Carter, Richmond
Dr. Gene Edward Clapsaddle, Vinton

Dr. Sarah Cook, Arlington
Dr. William Edmund Craddock, Charlottesville
Dr. Fred S. Cruser, Salem
Dr. William Dona Damron, Richlands
Dr. Henry Chesley Decker, Richmond
Dr. Charles Joseph Devine, Jr., Norfolk
Dr. Cecil Buxton Dixon, Ingram
Dr. A. Henry Dunn, Riverside, Calif.
Dr. Thomas Isom Durm, Portsmouth
Dr. Herman Lee Earnhardt, Jr., Fredericksburg
Dr. Arthur Ebbert, Jr., Charlottesville
Dr. Leonard Oswell Fears, Jr., Galax
Dr. Charles Osville Finne, Saltville
Dr. Claiborne Willcox Fitchett, Charlottesville
Dr. William Cary Fleming, Waynesboro
Dr. Jack Freund, Highland Springs
Dr. Shockley DeWitt Gardner, Richmond
Dr. George Leonard Gee, Jr., Richmond
Dr. Jean Martin Glasgow, Roanoke
Dr. Henry Thomas Gray, Charlottesville
Dr. Thomas Walton Green, Richlands
Dr. David Jeremiah Greenberg, Richmond
Dr. James Louis Guillette, Richmond
Dr. Robert Cameron Hagan, Roanoke
Dr. Luther Johnston Hamlett, Harrisonburg
Dr. Florine K. Hampton, Portsmouth
Dr. Andrew Wentworth Hargroves, Jr., Portsmouth
Dr. Eileen Schofield Harrington, Richmond
Dr. John Louis Harris, Jr., Roanoke
Dr. Carrington Harrison, Winchester
Dr. Charles Arthur Hefner, Roanoke
Dr. Gordon Ross Hennigar, Jr., Richmond
Dr. Meredith Benjamin Hesdorffer, Martinsville
Dr. William Stephen Hitric, Floyd
Dr. Jacob J. Hladys, Richmond
Dr. William Wyatt Hoback, Richlands
Dr. John Hogan, Big Stone Gap
Dr. John Warren Hollowell, Portsmouth
Dr. William Stuart Hotchkiss, Norfolk
Dr. Aubrey Alphin Houser, Jr., Richmond
Dr. Richard Lemmon Hughes, Jr., Winchester
Dr. Robert Price Irons, Lexington
Dr. Eileen Agnes Thorpe Jennings, Bedford
Dr. Thomas Henry Jennings, Bedford
Dr. Walter Stanley Jennings, Norfolk
Dr. Thomas Nelson Page Johns, Rockville, Md.
Dr. Albert McCray Jones, Norfolk
Dr. Delmas Bernard Jones, Norton
Dr. George Robert Jones, Highland Springs
Dr. Paul Kaufman, Arlington
Dr. Ernest Jackson Keffer, Jr., Roanoke
Dr. William Harland Kelly, Richmond
Dr. Harold Nelson King, Hampton
Dr. Leo Nicholas Kirch, Norton
Dr. Herman Melvin Kunkle, Portsmouth
Dr. Quentin James Legg, Warwick
Dr. Beverly Jean Loesch, Waynesboro
Dr. Richard Hubert Lowe, Jr., Roanoke
Dr. Natalie Inge Lum, Petersburg
Dr. Joseph Charles MacKnight, Fredericksburg
Dr. John Albert Martin, Roanoke
Dr. Thomas Day McCahill, Smithfield
Dr. Joseph Henry McCormick, Jr., Petersburg
Dr. Samuel Marshall McDaniel, Norfolk
Dr. James Edward McGee, Jr., Richmond
Dr. Samuel Edmund Miller, Abingdon
Dr. Harry Joseph Minarik, Salem
Dr. Brooke M. Moffett, Norfolk
Dr. Edmund Peter Naccash, Arlington
Dr. Albert Elwood Pagan, Front Royal
Dr. Duncan Parham, Charlottesville
Dr. Edwin Brown Parkinson, Richmond
Dr. Glenn Ward Phipps, Petersburg
Dr. W. Glenn Reed, Richmond
Dr. Charles Nelson Richards, Jr., Richmond
Dr. Olindo William Rosanelli, Richmond
Dr. John B. Rose, Jr., Fredericksburg
Dr. Douglas Pendleton Rucker, Richmond
Dr. Walter Wesley Sawyer, Jr., Norfolk
Dr. Thomas George Scott, Radford
Dr. Ronald Napier Shelley, Norton
Dr. Stanley Edward Smith, Jr., Norfolk
Dr. Leroy Dilmore Soper, South Boston
Dr. Fred J. Spencer, Christiansburg
Dr. Wilson Paschall Stephens, Richlands
Dr. Helen Wickham Taylor, Norfolk
Dr. Gordon Clark Gregory Thomas, Charlottesville
Dr. Philip R. Thomas, Chuckatuck
Dr. Norman Rock Tingle, Nuttsville
Dr. Paul Bernhardt Toms, Martinsville
Dr. Bertram Fairley Townsend, Warwick
Dr. Weir Mitchell Tucker, Richmond
Dr. David Michael Wayne, Bluefield, W. Va.
Dr. Victor Clifford Welch, Waynesboro
Dr. Walter Albert Werner, Gate City
Dr. Ruth Mitchell White, Arlington
Dr. Hugh Hiter Willis, Jr., Chatham
Dr. Arthur Lavergne Wilson, Winchester
Dr. James Davis Wilson, Charlotte C. H.
Dr. Charlie Francis Wingo, Richmond
Dr. Norman Francis Wyatt, Petersburg
Dr. Walker Pressley Youngblood, Hopewell

The names of deceased members will be presented to the Society at the annual meeting at Roanoke in October.

Your Committee has made a study of conditions in the State of Virginia similar to the one made the year before with the following findings:

1. Registered in Virginia as of July 1, 1952:	
Medicine and Surgery	2,875
Homeopathy	14
Total	2,889
2. Less those listed as living out of state and licensed in Virginia	49
Balance	2,840

3. Less colored doctors registered and living in Virginia	140
Balance	2,700
4. Members of State Medical Society exempt from payment of dues	233
5. Members of State Medical Society living in Virginia and paying dues	1,961
Total	2,194
6. Difference in the two above figures 2,700 and 2,194	506
7. Out-of-state members	182
8. Members of component societies who are not members of the State Society, approximately	239
9. White physicians licensed to practice in Virginia who are not members of component societies and are eligible for membership, approximately	367
10. Total number of licensed white physicians who are not members of the Medical Society of Virginia, approximately	606

Your committee takes pleasure in recommending for honorary membership our distinguished retiring president, Dr. James L. Hamner, of Mannboro.

James A. Thweatt
George W. Leavell
W. R. Whitman, Sr., *Chairman*

Post-Graduate Education

The Committee on Post-Graduate Education has had no meetings during the year. Plans had been made by previous committees which have been followed under the close, capable, and interested direction of Dr. Kinloch Nelson.

The activities during the past fiscal year, i.e., since the latest meeting of the Medical Society, have consisted of putting on the following meetings:

Three speakers gave five talks before a combined meeting of the Mid-Tidewater and Northern Neck Medical Societies in the afternoon and evening of December 10, 1952. This meeting was attended by eight local physicians. The expenses were $150.00, of which the local societies contributed $42.50, leaving an expense to the Committee of $107.50.

A joint meeting of the Buchanan-Dickenson and Tazewell Medical Societies was held in Tazewell on November 9th with three speakers. There was a large attendance of the physicians from the Tazewell neighborhood, but very few from the Buchanan-Dickenson group. The expenses were $362.26, of which the local societies contributed $150.00, leaving an expense to this Committee of $212.26.

Because of the terrain in that region, it was decided that the spring meeting would be held one day in Tazewell and the next in Grundy. Accordingly, three speakers addressed the Tazewell group on May 20th and the same three speakers gave the same talks in Grundy on May 21st. Twenty-one physicians attended the meeting in Tazewell and all the physicians in the Buchanan-Dickenson Society attended the meeting in Grundy. The expenses were $362.84, of which the local societies contributed $150.00, leaving an expense to the Committee of $212.84.

In addition there has been continued cooperation and support of the post-graduate Cancer Education courses which have been given in various areas of the state. That program, supported financially and otherwise, by the Virginia Cancer Society, ends with the completion of the current series.

The Committee recommends the same appropriation requested last year.

John T. T. Hundley, *Chairman.*

Grievance

No cases have been considered by the Grievance Committee during the past year.

W. C. Caudill, *Chairman*

Public Relations

The past year might very well be labeled a "follow through" year as far as public relations is concerned. During previous years a program of several specific projects was set up with definite goals in mind, and a "follow through" effort has been directed toward that end.

Realizing that the Annual *Public Relations Conference* does much to stimulate PR activity over the state, the conference was held on January 29, thus getting the program underway earlier than in past years. The meeting took place in Roanoke and featured a work-shop program of *things to do* and *how to do them.* It was unfortunate that the conference had to compete with the flu epidemic, which undoubtedly contributed to the disappointing attendance of fifty.

The Committee is pleased that the *PR newsletter,* Current Currents, has been mailed to the membership monthly. It is hoped that the letter can be made bigger and better as time goes on.

Also distributed monthly, with one exception, were the *"Bulletins for Office Personnel".* Although these bulletins were begun over a year ago with no definite plans concerning their future, their reception was such that the Public Relations Committee decided to send them out with Current Currents whenever possible. The "bulletins" have now "caught the eye" of the American Medical Association and will soon be brought to the attention of State and County Medical Societies over the nation.

A two-night *Public Relations Course for Medical Office Personnel* was held in six areas of the State. This course was prepared and presented by Secretary Bob Howard and its popularity with physicians was evidenced by the large turn-out in every locality. 341 office workers had the benefit of the course where it was held: in Norfolk, Lynchburg, Petersburg, Richmond, Roanoke, and Woodstock. The Committee appreciates the cooperation of the various component societies in organizing the course in their respective areas. Other societies have expressed an interest in the lectures and full details may be had by simply contacting our State office.

The radio approach to public relations continued to receive the attention of the committee. In an effort to reach the youth of our state, *the "Dr. Tim, Detective" series* (13 transcriptions) was purchased and component societies contacted with reference to sponsoring the series in their respective areas. Thus far, the series has been aired in Radford, Roanoke, Fredericksburg and Lynchburg. Once again, full details can be secured from the State office.

Through the generosity of a member of The Medical Society of Virginia, the *propaganda film "Without Fear"* was presented to the committee with the expressed desire that it be shown at meetings of component societies and other interested groups. The film was shown eight times during the year.

The committee appreciates the cooperation of the Woman's Auxiliary in making it possible to sponsor an *exhibit* at the Atlantic Rural Exposition, which serves as Virginia's state fair. Last year the exhibit was on "obesity", and this year the exhibit will be entitled "Health 1953". Members of the Auxiliary from Richmond and Petersburg, who did a particularly fine job with the exhibit last year, will again be on hand.

For the first time in many years, an exhibit was presented at the Annual Meeting of the Virginia Pharmaceutical Association. The *"Health 1953"* exhibit was used, and, judging from its reception, should score a hit at the Exposition.

In an effort to place our public relations planning on a sound basis, a survey was undertaken to determine just where the component societies stood with respect to PR. The committee was most interested in any criticism and suggestions they might have.

It was encouraging to note that at least fifteen component societies have a public relations program of some type in effect. Fourteen of them actively promote *voluntary health insurance;* eleven have developed *night and emergency call systems;* six sponsored the *PR Course for Office Personnel;* four sponsored the *"Dr. Tim, Detective" radio series;* six are working to establish a better *press-radio relationship;* seven are working closely with *other groups* (Grange, P-TA, etc.); three have presented *health exhibits* at fairs, etc.; and three have *speaker's bureaus* operating.

When all factors are taken into consideration, the picture is not too bleak. Medical public relations now has a toe hold in Virginia, and the committee must seek to promote its growth on both local and state levels.

BENJAMIN W. RAWLES, JR., M.D., Richmond
JOHN W. DAVIS, M.D., Lynchburg
GEORGE A. DUNCAN, M.D., Norfolk
H. C. BATES, JR., M.D., Arlington
FRED D. MAPHIS, M.D., Strasburg
JAMES P. KING, M.D., *Chairman,* Radford

Publication

The composition of the Virginia Medical Monthly remains relatively unchanged since last year. A new column, "Medicolegal Notes," has been added in which medicolegal topics of current interest are briefly discussed.

Subscribers to the Journal now number 2733, a slight increase over last year's figure of 2705.

The cost of printing the Journal has just recently been increased 15 per cent, a rise which may necessitate requesting additional appropriations.

WYNDHAM B. BLANTON
A. BROWNLEY HODGES
LEWIS H. BOSHER, JR.
M. PIERCE RUCKER

Medical Service

Two meetings of the Medical Service Committee as a whole have been held, both of which have been devoted to the consideration of Hospital Health Insurance programs anticipated for the consideration of the House Of Delegates at its annual meeting. The work of the subcommittees charged with special interests under the general supervision of this committee have been neglected because of the importance attached to the aforementioned subject.

Numerous meetings have been held between representatives of the Health Insurance Council, the Medical Service Committee, the Council On Medical Service, and the Council of The Medical Society of Virginia. Discussions entered into have been along the lines covered and suggested in the annual report of this committee for the year of 1952. Active effort is in progress to obtain a fee schedule which will be available to the members of The Medical Society of Virginia upon its acceptance by the Medical Society. In this regard the Medical Service Committee feels that first of all The Medical Society of Virginia does not want to get into the insurance business nor to endorse any specific insurance policies or programs. In spite of this we do want to encourage the sale of adequate insurance in our state and we do wish to encourage our patients to adequately protect themselves against the possibility of hospitalization and bills for medical and surgical care. In discharging this responsibility the Medical Service Committee feels that The Medical Society of Virginia can best achieve this by publishing a fee schedule which shall be complete in as many details as possible and which shall be predicated upon the average fee charged by the membership of this society for the specific service outlined and rendered in the fee schedule for a person in a family income group of $5,000 or less. If this is done it makes it possible for the citizen in the state to protect himself to whatever degree he feels it is necessary and desirable and it makes him cognizant of what he can anticipate as a reasonable cost for such illness or hospitalization. It is felt that contracts between physicians as professional men and intermediate agents relative to the sale of their professional service are unwise and that this schedule will obviate the trend towards such contracts. It is further hoped that with the publication of such a schedule insurance companies will be encouraged to withdraw from the market in the state of Virginia those substandard policies which cause so much trouble to the citizens of our state at the present time.

A number of sub-committees are at work in the preparation of the parts of the schedule which are their responsibilities. It is anticipated that these committees will report in time for the committee as a whole to reconsider the schedule submitted and present to the House Of Delegates in October a complete schedule. It is not felt that the schedule submitted will be final or complete in all details but it is hoped that it may be an acceptable one and serve as the essential starting point in what the committee considers to be a long range but very necessary effort.

II. Rural Health

The sub-committee on Rural Health participated with the Council on Rural Health in planning for and in the presentation of the Eighth Annual Conference On Rural Health which was held in Roanoke, Virginia, during February of this year. For the first time since this conference has been in existence the Executive Committee of the Council met with certain members of The Medical Society of Virginia which included the sub-committee on Rural Health to discuss the plans for this conference. At the time the conference was held the members of the sub-committee as well as many members of The Medical Society of Virginia attended parts of this conference. The Roanoke Academy of Medicine assisted in obtaining transportation for attendants at this conference to visit the Clinic in Huddleston which was cited as an example of effective rural health planning for the attraction of general physicians. Through this medium certain farm agencies were made aware of the interest of The Medical Society of Virginia in their problems although the desired liaison with farm groups has not yet been accomplished.

III. The Chronically Ill

No specific activity of this sub-committee has been reported during the calendar year.

IV. The Medically Indigent

Dr. H. B. Mulholland served as chairman of a committee of the Council On Medical Service to study the problem of the medically indigent. This report of Dr. Mulholland's committee to the Council On Medical Service has been published and is available to those members of The Medical Society of Virginia who are interested in this problem.

V. Industrial Health

The committee on Industrial Health under Dr. Charles Savage has been active in programs in industrial health which have been held throughout this section and nationally. Several articles and trends in neighboring medical societies have been called to the attention of the committee by Dr. Savage and his group. The Medical Society of Virginia's committee to maintain liaison with UMW Fund includes several members of the Medical Service Committee and this committee is to meet in a second conference called by the AMA in Charleston, West Virginia, in September of this year. Further specific recommendations relative to Industrial Health are not included in this report.

VI. Health Councils

The State Council On Health And Medical Care has attracted considerable publicity during the past year. It has been cited by the National Health Council for its work in the placement of physicians in rural areas and this responsibility of the profession has been in large measure relegated to this agency. No active program relative to health councils has been undertaken by the Committee On Medical Service during the current calendar year.

VII. Veterans Care

At the direction of Council the Committee On Medical Service was directed to consider the Veterans contract which must be annually renewed between The Medical Society of Virginia and the Veterans Administration and other veterans matters. Certain changes suggested in this fee schedule were effected at the time of the latest renewal of this contract on June 30, 1953. These changes included all matters which had been brought to the attention of the Medical Service Committee and in the future any members of the Medical Society who desire that changes be effected should notify the Medical Service Committee in ample time for the consideration of the suggested change prior to June 1 of the year in question.

Insurance companies continue to approach the Society with plans for group disability insurance, etc. To date no favorable recommendation has been made by the Medical Service Committee inasmuch as it continues to feel that the membership of The Medical Society of Virginia is adequately served through group plans available on either a local level or through various professional organizations and groups within the Medical Society so that no need exists nor would any real advantage accrue to the membership of the Medical Society through such a plan. Sentiment in favor of any such program must be expressed before the committee can be expected to seriously consider these plans.

Respectfully submitted,

Russell V. Buxton, M.D.
Harold W. Miller, M.D.
William R. Pretlow, M.D.
James P. Williams, M.D.
T. B. McCord, M.D.
H. M. Frieden, M.D.
John G. Graziani, M.D.
Charles L. Savage, M.D.
Snowden C. Hall, Jr., M.D.
John O. Boyd, Jr., M.D., *Chairman*

SPECIAL COMMITTEES

Advisory To Woman's Auxiliary

The Committee has no specific report except upon several occasions it has acted in an advisory capacity on questions brought up by Mrs. Hunnicutt, the President of the Auxiliary.

Waverly R. Payne, M.D.,
Chairman

Conservation of Sight

The Conservation of Sight Committee has been inactive during the year, as nothing of any significance was brought to my attention during this time.

I would like to suggest that the Committee next year might consider sponsoring a course in visual training.

RUDOLPH C. THOMASON, M.D.,
Chairman

Child Health

At the 1952 meeting of the House of Delegates of The Medical Society of Virginia, this Committee received permission to make a study of premature mortality. With the cooperation of the State Department of Health it was decided to begin by trying to investigate individual deaths of premature infants born at home. Since in 1952 there was a total of 6,977 prematures born, with 1,151 deaths, it was decided to limit the study to only those being born at home. This has been a much greater task than we realized as with the efforts of one trained premature nurse we were able to investigate completely 41 cases. The task of investigating is rather exhausting. It consists of finding the family, looking at hospital records, doctors' records, finding midwives, checking prenatal care, and care of the infant after birth. These data were compiled and then examined by each member of the Committee at which time he gives his opinion of the case. The Committee has met as a group and discussed our findings.

Out of the first 41 cases completed the Committee made the following observations. There were 17 cases that were classified as non-preventable. The reasons for the preventable deaths were:

Lack of prenatal care—13

More could have been done medically—12

Sociological factors; economics, lack of intelligence—13

Eleven of the 41 cases studied were delivered unattended due to lack of availability of a doctor. This occurred in Counties having only one doctor for a very large area. Families were unable to afford hospitalization in some cases. Also, there were situations in which the doctors were unwilling to attend the delivery in the home for several reasons. There was also the problem of small children in the home with no one to care for them if the mother went to a hospital.

One idea that seems worth mentioning is that in several cases, there is thought on the part of some physicians that prematures should not be saved because so many are feebleminded or have other defects. This, in the conclusion of the Committee is not warranted and frequently with proper pre and post natal care, damage to the infants can be prevented allowing perfectly normal growth and development.

Your Child Health Committee feels it has just scratched the surface of this great problem, and the medical profession should meet the challenge of this great loss of life. The Committee wishes its work to continue.

The other problem facing the Child Health Committee is the lack of custodian care for markedly feebleminded children. Since a feebleminded child can completely wreck the average family both socially and economically, it is hoped that the prestige of The Medical Socitey of Virginia will be used to urge the Virginia Legislature to push accommodations for these unfortunate children. That this is a great problem has been proved beyond doubt by the figures recently collected by the Virginia Pediatric Society.

Respectfully submitted,

McLEMORE BIRDSONG, M.D., *Chairman*
PAUL HOGG, M.D.
WILL E. CHAPIN, M.D.
E. L. KENDIG, M.D.
J. M. BISHOP, M.D.
CHARLES POWEL, M.D.
EDWIN A. HARPER, M.D.

Advisory Heart

The Advisory Heart Committee, appointed by the president of The Medical Society of Virginia, wishes to report that the past year has been one of exploration, trial and error. The year prior to this a great many doctors were interviewed concerning the advisability of cardiovascular clinics in their respective localities for indigent patients. These clinics were to be supported in part by funds from the Heart Disease Study program of the State Health Department of Virginia, under the direction of Dr. Mason Romaine, in conjunction with Dr. William Cawthon working through the Cardiovascular Division of the Department of Internal Medicine of the University of Virginia.

After considerable correspondence with physicians in various localities, it became apparent that the larger population centers did not require the services or particularly desire the help of a visiting cardiovascular physician, even for occasional consultation clinics. In fact, they preferred to run their own clinics without additional help.

On the other hand, it was found that the smaller communities, particularly the rural health centers, had a tendency to welcome these gatherings and a number of successful sessions were instituted.

This year the effort will be continued and Dr. Frank Tate of the University of Virginia Hospital will again cooperate with Dr. Mason Romaine in the projection of this effort.

Consultation and discussion with a number of the members of this committee have led to the feeling that it may be wise to rotate the chairmanship to other sections of the state, and your chairman specifically requests this at the next meeting of the Society.

J. EDWIN WOOD, *Chairman*
JULIAN R. BECKWITH
PAUL D. CAMP
R. EARLE GLENDY
R. B. GRINNAN
JOHN B. McKEE
J. FRANKLIN WADDILL

Polio

The committee during the year had one committee meeting which was held jointly with a representation from

the State Department of Health on April 10, 1953 to advise concerning the use of gamma globulin. Correspondence between the members of the committee was also used along with the conclusions derived from the joint meeting to formulate a report that was published in the July issue of the Virginia Medical Journal.

At the time this report is presented for publication Poliomyelitis is in epidemic form in various parts of the United States. Washington county area is apparently the only area in Virginia that is so involved and gamma globulin is being used. Gamma Globulin is also being used for protection in household contacts in other areas.

Predictions cannot now be made as to whether the State of Virginia will have enough cases in the future to be considered an epidemic state.

Polio Committee of the State Society
Lee E. Sutton, Jr., M.D., *Chairman*, Richmond
R. B. Bowles, M.D., Mathews
E. A. Harper, M.D., Lynchburg
Robert C. Hood, M.D., Arlington
Roy M. Hoover, M.D., Roanoke
Albert S. McCown, M.D., Richmond

Venereal Disease

A meeting of the full committee was held in Washington, D. C., on March 21, 1953.

At this meeting the venereal disease situation and the present status of treatment in Virginia was freely discussed.

It was decided that no new recommendations would be made in so far as the treatment schedules were concerned. It was decided that this committee would not recommend the repeal of the State Premarital Serological Test since it serves as a useful source of information and contact tracing in the State.

The committee had as its guest Dr. Robert A. Nelson of Johns Hopkins University, Baltimore, Maryland, who discussed in great detail the treponema immobilization test which Dr. Nelson originated. It was the consensus of opinion of your committee that means should be found for the performance of this test (which is a truly specific test for early cases of syphilis) in the State of Virginia provided suitable personnel could be obtained for the performance of this test. The committee feels that this test has the greatest merit and that it would be a great boon in the diagnosing and investigation of early cases of syphilis.

Harry Pariser, M.D.
W. R. Southward, M.D.
Allen Pepple, M.D.
William Kaufman, M.D.
J. W. Love, M.D., *Chairman*

House

The House Committee is pleased to report that once again, we have managed to stay within the budget set up for building maintenance and repairs.

Last year, the amount budgeted for maintenance was reduced from $3,000 to $2,500, and it seems fairly safe to predict that the current year's expenditures will not exceed $2,100. The cost of heating the building (oil) amounted to $281.48, the remainder being charged against the various utilities (lights, water, etc.), taxes, the janitor's salary and supplies, service on heating system, and paint for three 2nd floor rooms.

No major repair work on the building proper was undertaken during the year. However, it did become necessary to replace the back porch steps, which had become a real safety hazard, and install two radiators in order that those working in the rear of the building might be comfortable. The only other work involved minor window repair. Thus, a total of $205.96 has been spent as against $500 included in the budget for repair purposes.

The Committee had hoped it could report the rental of additional office space. However, our prospective tenants have as yet been unable to clear certain technicalities in their present lease, and it is doubtful if anything will be done before next year.

Donald S. Daniel
Fletcher J. Wright, Jr.
Harry J. Warthen, Jr., *Chairman*

Cancer

The American College of Surgeons is sending, in the near future, an inspector to the Tumor Clinics approved by The Medical Society of Virginia through this Committee. Therefore the usual annual reports from the Clinics, which serve as the basis for granting recertification, have not been requested. The Committee will defer consideration of recertification until it has received the report of the American College of Surgeons' inspector.

Your Chairman has visited two groups and is corresponding with a third, which are making plans to establish new Tumor Clinics.

The Committee has published a series of twelve Bulletins in the Virginia Medical Monthly. Judging from correspondence and comments, these Bulletins are being widely read and well received. A number of reprints have been requested by out-of-state physicians, some of the Bulletins have been used by other State Journals, and one was reprinted in "Current Medical Digest."

Arthur B. Gathright, Richmond
E. P. Lehman, Charlottesville
A. P. Jones, Roanoke
Joseph W. Houck, Lynchburg
Mason Romaine, Petersburg
Nelson Smith, Petersburg
John J. Giesen, Radford
Martin L. Dreyfuss, Clifton Forge
Charles H. Peterson, Roanoke
John R. Kight, Norfolk
A. C. Wyman, Alexandria
Frank D. Daniel, Charlottesville
George Cooper, Jr., Charlottesville, *Chairman*

American Medical Education Foundation

The American Medical Education Foundation Committee for Virginia has had two meetings this year. The chairman of the committee attended the national meeting

in Chicago. A long letter concerning this meeting was published in the June issue of the Virginia Medical Monthly.

A number of letters to individuals have been sent and a lot of personal work has been done towards publicizing the AMEF. I believe that true progress has been made this year over last year. If the same progress is made every year for the next few years we should be up to the point where every man is conscious of the worthiness of this cause.

A suggestion that has been made, and about which I have written to several people, is that the state committee be appointed 1 - 2 months before we have the annual fall meeting so as to save several months' time. I am certain that if this committee and other committees were appointed at least 30 days ahead of the annual state meeting, the members of the committees could have numerous meetings over the several days' period and therefore greater progress could be made on all committees.

The president-elect wrote me that he was looking into the legality of this. I am sure that it is legal for any president-elect to appoint any committees he wants to; and for the committees to meet as often as they want to, and plan anything they want to provided they perform no acts and do no actual work. We have established this procedure in the Roanoke Academy of Medicine and it is a good procedure. The committees have no power to act before the installation of the president-elect, but they have every legal right to plan their campaign.

MARCELLUS A. JOHNSON, JR., *Chairman*

(EDITOR'S NOTE: Last year, 185 Virginia physicians contributed $5424.80 to the American Medical Education Foundation. From January through June of this year, 199 contributions totaling $3053.50 had been received. When it is considered that over $3000.00 of the 1952 total was received in the last three months of the year, it can be seen that Virginia is well ahead of the pace set in 1952.)

Liaison Committee to the United Mine Workers Welfare and Retirement Fund

The Liaison Committee to the United Mine Workers Welfare and Retirement Fund has not met since the last report to the House of Delegates at the 1952 meeting. Voluminous correspondence has passed relating to various activities and plans, but no specific problem has been referred to the committee for study.

The UMW plan for the medical and hospital care of miners and their families is important among the many such proposals now in operation or under discussion in this country. These various experiments will result in policies, and perhaps changes, of vital and far-reaching importance to the individual physician and to organized medicine. It is with a real sense of urgency that your committee attempts to keep abreast of the proposals and changes suggested, and to endeavor to guide them along the line of real betterment of medical care, without the interference of excessive bureaucracy.

There will be held in Charleston, W. Va. on the 13th and 14th of September the second conference of the UMW representatives with committees and officers of the various states concerned and representatives from the AMA. Your committee will attend and participate in that conference, following which there will be presented a supplemental report.

KINLOCH NELSON
MACK I. SHANHOLTZ
JOHN O. BOYD, JR.
CHARLES L. SAVAGE
JAMES P. WILLIAMS
RUFUS P. BRITTAIN
JOHN T. T. HUNDLEY, *Chairman*

Mental Hygiene

The Mental Hygiene Committee of The Medical Society of Virginia has now been in existence in its present form for three years. Dr. Joseph Barrett, who was Chairman four years ago, suggested that a larger committee be formed which would include doctors who are not psychiatrists. Following this suggestion, the present Chairman, who was appointed at that time, created a Committee which represented the medical profession in all the different areas of the state.

In July, 1951 the annual report described the activities which had taken place during that year and also gave a report by each member of the Committee on the condition of mental hygiene in his local area. On August 1, 1952 the primary mental health needs of the state were listed and the progress the Committee had made toward meeting these needs was reported, and plans for future work were set forth. In October, 1952 Dr. Hamner continued the Committee almost intact. This report shows the effect of the continuous activity of a more or less permanent Committee on Mental Hygiene at the end of a three-year period.

Four committee meetings were held during the past year: On September 30, 1952 in Richmond, on October 25, 1952 in Charlottesville, on February 16, 1953 in Roanoke, and on June 27, 1953 in Charlottesville.

Experience has taught the Committee that there were many things that could not be done, and that it was wiser to limit its activities to fairly specific objectives. Therefore, during the last year the Committee has centralized its interest on the following topics:

I. The spreading of information regarding mental hygiene to the physicians of the state;

II. The increase of facilities for treatment of psychiatric patients in general hospitals;

III. The increase in the number of psychiatrists in the state;

IV. The study and recommendations concerning insurance covering hospitalization and professional charges in mental and emotional disorders.

I. *The spreading of information regarding mental hygiene to the physicians of the state—*

We have used five different methods of approach:

(a) The first of these was to urge each member of the Committee to arrange with his local medical society to have at least one program on a mental hygiene topic

during the year. This has been carried out.

(b) The Committee supplied speakers for the programs of the local medical societies. It has been found that the most attractive form of program that could be supplied was in the form of a panel discussion on some topic of general interest. A symposium on "The Management of Pain" was organized at the University of Virginia Hospital. This symposium was used as follows:

November 5, 1952—Lynchburg Academy of Medicine, Inc., Lynchburg, Virginia (Dr. David C. Wilson, Dr. Walter O. Klingman, Dr. Daniel T. Watts)

December 9, 1952—Fourth District Medical Society, Petersburg, Virginia (Dr. Wilson, Dr. Klingman, Dr. Watts)

April 16, 1953—Southwestern Virginia Medical Society, Marion, Virginia (Dr. Wilson, Dr. Cary G. Suter, Dr. Edward V. Jones, Jr.)

Another symposium program on N. & P. Outpatient Treatment was presented to the Northern Virginia Medical Society, Luray, Virginia, on April 14, 1953, by Dr. Charles A. Finnigan, Dr. Arthur J. Bachrach, and Dr. Cary G. Suter.

At the suggestion of Dr. Powell Williams, a member of the Committee, a single speaker was supplied for the meeting of the Richmond Academy of Medicine on January 13, 1953, as arranged by Dr. Leroy Smith. The topic was "The Treatment of Depression" by Dr. David C. Wilson.

(c) Conferences at the two medical schools: In 1951 a conference on emotional disorders was held at the University of Virginia Medical School. This year it was planned to hold a conference on the handling of psychiatric emergencies at the Medical College of Virginia. At the last moment it was found that this conference could not be held, so the program was combined with the program of the Spring Meeting of the Neuropsychiatric Society of Virginia, which was held at Westbrook Sanatorium, Richmond, Virginia, on April 1. The first part of the program presented before the Neuropsychiatric Society was on psychiatric emergencies, and members of the Mental Hygiene Committee were invited to attend.

(d) The possibility of setting up courses for postgraduate education has been considered by the Committee during the last three years. Such courses have been given in other states, so that the methods used and the success of such postgraduate courses were considered. It has been the general feeling and experience of the Committee that formal courses on mental hygiene subjects do not have sufficient appeal to make them worth while.

During this year an attempt was made to initiate a course in psychiatric interviewing at the University of Virginia Hospital during the Easter holidays. The Committee received most excellent co-operation from the Academy of General Practice and from the President of the Academy as well as the President of The Medical Society of Virginia. Nevertheless, the number of physicians indicating their interest in such a course was so small that the course had to be abandoned. It is felt by the Committee that unless there is a special demand for such a form of postgraduate training, no attempts to present formal courses will be made.

(e) The fifth method employed was participation in programs of state societies other than local medical societies. The carrying out of this objective was initiated by the presentation of a panel program on "Human Factors in Disease", jointly sponsored by the Mental Hygiene Society of Virginia and the Mental Hygiene Committee of The Medical Society of Virginia, at the annual meeting of the Mental Hygiene Society of Virginia, Roanoke, February 16, 1953. Dr. David C. Wilson acted as Moderator and panel speakers were as follows: Dr. Robert N. Creadick, Professor of Obstetrics and Gynecology, Duke University, Durham, N. C., "Emotional Disorders Encountered in the Practice of Obstetrics and Gynecology"; Dr. Charles M. Caravati, Gastro-Intestinal Specialist, Richmond, "Emotional Disorders of the Stomach"; Dr. R. Earle Glendy, Cardiologist, Roanoke, "Emotional Disorders of the Heart"; and Dr. Edwin A. Harper, Pediatrician, Lynchburg, "Emotional Disorders of Children".

It was in accordance with this same idea that members of the Mental Hygiene Committee were invited to attend the Spring Meeting of the Neuropsychiatric Society of Virginia and to take part in the discussion.

II. *The increase of facilities for treatment of psychiatric patients in general hospitals—*

The Hill-Burton Act and the increased demands for hospital care for patients has caused the construction of and additions to general hospitals throughout the state. The Committee has worked through its membership to urge that facilities for psychiatric patients be included in construction plans. The efforts of the Committee in this regard have met with a great deal of success.

III. *The increase in the number of psychiatrists in the state—*

During the last three years the Committee has emphasized the need for psychiatrists in the different communities of the state and has also urged the Department of Mental Hygiene and Hospitals to increase the number of mental hygiene clinics to meet the increasing need for mental hygiene services. There has been an increase in the number of psychiatrists in different communities. The Norfolk area is much better served than formerly. A psychiatrist has started practicing in Bristol. The establishment of mental hygiene clinics has been requested by the Committee for the Winchester area as well as for Danville. It is hoped that these clinics will soon be established.

IV. *The study and recommendations concerning insurance covering hospitalization and professional charges in mental and emotional disorders—*

During the existence of the present Committee a study of insurance coverage for patients with emotional and mental disorders has been carried on by a special committee headed by Dr. J. R. Saunders. At the last meeting of the Committee on June 27 at the University of Virginia Hospital, this topic was discussed with state representatives of the Blue Cross and Blue Shield. Dr. John B. Mc-

Kee was requested to draw up the recommendations of the Committee in regard to a plan for extending Blue Cross-Blue Shield coverage to patients suffering from emotional and mental disorders. The following is an outline of the recommendations of the Committee:

(1) It is agreed that the present Blue Cross-Blue Shield contract with its ten-day limitation of service to the psychoneurotic or mentally ill does as much as could be expected at the present rates charged. It is obvious that complete coverage for the mildly psychoneurotic, the constitutionally inadequate and the psychotic would financially wreck the plan as it is now constituted.

(2) The need for some type of insurance to assure adequate diagnostic study and definitive treatment of this group is acknowledged. They constitute the same category of catastrophic illness as do patients with prolonged malignancy, certain types of debilitating neurological disease, and the rehabilitation of the severely crippled. All of these patients require prolonged hospitalization, medical and nursing care, and often physical therapy extending over periods of many months. The standard Blue Cross-Blue Shield contract is designed primarily for the care of more acute, short-term illnesses and, as noted above, cannot possibly give coverage for this group of illnesses.

(3) It is suggested that the Blue Cross-Blue Shield organization investigate the feasibility of a $100, $200 or $300 deductible type of contract covering catastrophic illness, whether it be mental or physical. It is recognized that such a contract could not indefinitely cover the cost of hospitalization for the incurable psychotic who will eventually require only custodial care; however, it will assure all mentally ill patients a careful and thorough diagnostic study. It will further assure a sufficiently long period of definitive treatment to make certain that each patient has the full benefit of all that modern psychiatry has to offer.

(4) In order that this policy have the widest possible appeal, it should cover every type of catastrophic illness. The details as to what would be covered and for how long would be a problem for the insuring body to determine.

(5) The ideal solution of the problem would be, of course, to have it worked out on a purely voluntary basis. However, the possibility of government subsidy at the state level deserves serious consideration, if the plan cannot be made to function on an entirely voluntary basis.

This recommendation of the Committee has been forwarded to Dr. Richard J. Ackart, Executive Director, Virginia Hospital Service, Inc., and Virginia Medical Service, Inc. for his consideration. He has been requested to let us know the reaction of his organization to our recommendations.

* * *

Besides the main objectives listed above, the Committee has several other minor objectives. The members of the Committee have been interested in books available in their local public libraries on mental health, particularly those suitable for educating the general public along broad fundamental lines.

At the meeting of the Committee on June 27, it was urged that members of the Committee recommend to members of their local medical societies that they subscribe to PSYCHIATRIC BULLETIN (for the physician in general practice). The address of this publication is: 1603 Oakdale Street, Houston, Texas; subscription rate: $3.00 per year, single copy 75 cents; publication dates: 1st day of December, March, June, September.

The Committee is also interested in psychiatric education, both on the graduate and undergraduate level, and is formulating plans for definite recommendations in these two areas.

The Journal of the American Medical Association, April 26, 1952, mentions the formation by the American Medical Association of a new standing committee known as the Committee on Mental Health. During the past year this Committee has made a survey of the different states to determine the presence or absence of a State Committee on Mental Health and to determine what activities are carried on by such committees. Dr. Leo H. Bartemeier is Chairman of this Committee.

The Mental Hygiene Committee of The Medical Society of Virginia sent to this Committee a copy of our annual reports for 1951 and 1952, together with a synopsis of current activities. On July 15, 1953 the Committee on Mental Health of the American Medical Association sent to your Chairman a list of suggested items of interest for committees of mental health of state associations. There are thirteen of these items, all of which have been considered by our State Committee. The items which have not been emphasized by our Committee are those that are already adequately taken care of in the State of Virginia. Your Committee plans to continue to co-operate with the Committee of the American Medical Association in all its activities and to take advantage of every facility that it offers.

In conclusion, the Committee recommends that the panel programs set up by the Mental Hygiene Committee be continued and similar teams be formed in different areas and be used more extensively; that local medical societies be urged to include emotional and psychiatric problems on their scheduled programs; that a proper proportion of the program of the Annual Meeting of The Medical Society of Virginia be concerned with mental and emotional problems; that clinics demonstrating the treatment of different types of mental disease, as well as their treatment, be given at the time of the annual meeting.

The Committee recommends that facilities for hospitalization of psychiatric patients be increased in general hospitals throughout the State, and that every effort be made to interest more psychiatrists in entering the communities of the state; and finally, that some form of insurance coverage be instituted which will make it possible for persons suffering from mental disease to be protected by adequate insurance coverage.

DAVID C. WILSON, *Chairman*
PATRICK H. DREWRY, JR.
JAMES K. MORROW
JOHN R. SAUNDERS
C. T. WILFONG
JOSEPH R. BLALOCK
EDWIN J. PALMER
THOMAS SPESSARD
JOHN POWELL WILLIAMS

John A. Sims
Snowden C. Hall
Julian R. Beckwith
Thomas S. Edwards
Thomas H. Anderson
Alexander G. Brown, III
John B. McKee
William S. Hooten
Landon E. Stubbs

Conservation of Hearing

Continued progress in the program for the detection, prevention and management of hearing and allied (speech) problems can be reported for the past twelve months. For the first time in the history of our two medical schools, full-time audiologists are now a reality. In each instance, the audiology department is functioning in cooperation with the respective speech departments (University of Virginia, School of Speech), (Medical College of Virginia, Junior League Speech Center), thus bringing nearer to fruition the key functioning units as proposed in the plan of the Virginia Hearing Foundation as announced by Doctor F. D. Woodward in 1951. (See previous reports.)

The recent survey conducted by the speech and hearing therapists of the Richmond Public Schools, in cooperation with the Junior League Speech Center Volunteers, is an encouraging feature, indicating a growing interest in the program. Of 1,222 pupils in the second thru sixth grade given individual hearing and speech tests, 143 or 11.7 percent showed speech defects; and 91, representing 7.4 percent, showed impaired hearing. It is hoped that other such surveys can be made throughout the state in the near future.

P. N. Pastore, *Chairman*
Neil Callahan
James Gorman
Fred Hamlin
J. H. Hopkins
Francis McGovern
Grant Preston
Fletcher Woodward

To Assist the American Diabetes Association

For several years the National Society, American Diabetes Association, has sponsored a designated week in November for Diabetes Detection and more recently Education. All of the campaigns have been put on by local societies of organized medicine. It has been through the approval and active support of the local society members that the work has been done. No funds have been solicited and the purpose of the campaigns have been to focus attention on Diabetes; to have the old patients return to their doctors as indicated; and to find new diabetics to be treated by their own doctors.

This committee feels that Diabetes is an important disease, amenable to treatment, and approves of the above campaigns particularly because there has been no personal notoriety for the doctors involved and no drive for funds from the public. It represents a reasonable facet of public relations of the medical profession that seems worth while.

The society of general practitioners in Richmond have agreed to examine, free of charge, the urine of any person which is brought to the doctor's office during the week of the drive in November. The Richmond Academy of Medicine has agreed to this also. This committee suggests that The Medical Society of Virginia, as a whole, make such an offer to the public and requests that the delegates approve this at the October meeting.

We also suggest that the local societies make full use of the program sponsored by the National Society of the American Diabetes Association which has nation wide broadcasts and posters and other publicity agents.

W. Collier Salley
R. C. Crawford
J. G. Willis
William R. Jordan, *Chairman*

Cerebral Palsy

During the past year considerable progress has been made in the care of cerebral palsy patients in the state of Virginia. Many of these clinics have been run in conjunction with the orthopedic or crippled children's clinics. The number of cerebral palsy cases cared for in Arlington has been greatly increased. This may be due to an increase in population but it is believed to be due chiefly to a greater interest. The latter clinic has been conducted by Dr. Allen M. Ferry, an orthopedic surgeon in Northern Virginia. In the Norfolk area, Dr. Vann, Jr., has shown a great interest in the care of these patients and they have been co-operating very favorably with volunteer organizations in that area. In the Richmond clinic, great progress has also been made. In all of the clinics, cooperation has been offered by neurologists and neurosurgeons.

Many of the clinicians in the Virginia area have attended the courses given by Dr. Pearlstein in Chicago. Some of the men have been particularly interested in the work of Dr. Phelps in Baltimore, and have traveled to that city in order to be acquainted with the newer methods. This has helped in the running of the clinics and additional personnel has been added so as to more completely give service to the handicapped child. It has also helped in offering home service to these patients since it has assisted in offering routines of home instruction given by parents.

The Crippled Children's Society of Virginia, which takes a great interest in cerebral palsy cases, has been able to offer financial assistance. This has been chiefly directed towards acquiring personnel in this field. In many instances the cost of care has been paid by the society. The state crippled children's program is also offering hospitalization and services for these patients. In many communities volunteer organizations have become greatly interested and through publicity have obtained funds for carrying out programs. Generally there seems to be a nationwide interest in cerebral palsy, greater than has ever been experienced previously.

In some areas, it is understood that new programs are underway. In as much as there is not enough information at this time regarding these new set-ups, publicity will be delayed until next year. Generally the outlook is much brighter, for the care of these patients.

JOHN A. VANN, M.D., Norfolk
WALTER O. KLINGMAN, M.D., Charlottesville
LOUISE F. GALVIN, M.D., Richmond
ROY M. HOOVER, M.D., Roanoke
O. ANDERSON ENGH, M.D., Alexandria, *Chairman*

Walter Reed

As Chairman of the Walter Reed Commission I would like to submit the following report:

Mr. Stanley W. Abbott of the National Historical Services visited me, with the idea of the government taking over Belroi as a national shrine. He made a survey and inspection of the property and estimated that it would cost the government $2500 to $3000 a year for maintenance.

His advice, considering the limited funds available, was to keep the lawn covered with some hay crop. This we have proceeded to do.

After my interview with Mr. Abbott, I do not think we have any chancé of the United States Department of the Interior National Park Service taking over the property as a shrine anytime in the near future.

RICHARD B. BOWLES, M.D., Mathews
CLARENCE P. JONES, M.D., Newport News
H. A. TABB, M.D., Gloucester, *Chairman*

All resolutions presented during the first session of the House of Delegates will be referred to the Reference Committee for consideration Monday morning, October 19, at 9:30 a. m. (Location to be announced.) The meeting is open to all members of The Medical Society of Virginia.

PR TIP OF THE MONTH

Why not follow the suggestion of one medical society and *invite your state senator and representatives to your county society meeting in the near future?* If possible, request them to say a few words. Friendly recognition by the physicians in their area helps make friends of your legislators.

SCIENTIFIC EXHIBITS

Progress and Growth of the Richmond Blue Shield Plan. Virginia Medical Service Association, Richard Ackart, M.D., Executive Director, Richmond, Virginia.

Survey of Accident and Health Coverages. Richard J. Eales, Health Insurance Council, New York, N. Y.

Tension Headache. Lester S. Blumenthal, M.D., Marvin Fuchs, M.D., Washington, D. C.

Techniques in Cardiovascular Surgery. Lewis H. Bosher, Jr., M.D., Richmond, Virginia.

Ballistocardiography as an Office Procedure. I. E. Buff, M.D., Charleston, West Virginia.

Emergencies in the Newborn. George Cooper, Jr., M.D., McLemore Birdsong, M.D., Randolph Bradshaw, M.D., Charlottesville, Virginia.

Duodenal Intubation in Intestinal Obstruction. John W. Devine, M.D., John W. Devine, Jr., M.D., Lynchburg, Virginia.

Health Council Work. Virginia Council on Health and Medical Care, Edgar J. Fisher, Jr., Director, Richmond, Virginia.

Photographs of Eye Pathology. Charles A. Young, M.D., Charles A. Young, Jr., M.D., Newland Wm. Fountain, M.D., Roanoke, Virginia.

The Alcoholic Convulsion. James B. Funkhouser, M.D., Benedict Nagler, M.D., Nancy Walke, B.S., Richmond, Virginia.

Recent Methods for the Prevention of Blindness and Deafness. E. G. Gill, M.D., H. L. Bell, M.D., Roanoke, Virginia.

Plastic Surgery. Hunter S. Jackson, M.D., Richmond, Virginia.

Spontaneous Pneumothorax. Marcellus A. Johnson, III, M.D., Roanoke, Virginia.

Abnormal Bleeding in Gynecology—Its Practical Approach and Management. Brock D. Jones, Jr., M.D., Maria Hellman, M.D., Norfolk, Virginia.

Medical Care of our Older Citizens. E. M. Holmes, Jr., M.D., M.P.H., Director of Public Health, Richmond, Virginia.

Department of Mental Hygiene and Hospitals. Joseph E. Barrett, M.D., Richmond, Virginia.

Radical Treatment of Pressure Sores in Paraplegics. J. Treacy O'Hanlan, M.D., F.A.C.S., Woodrow Wilson Rehabilitation Center, Waynesboro, Virginia.

Pathology, Toxicology, Identification and Criminology of a Medico-legal Nature. Department of Health, Office of the Chief Medical Examiner, Geoffrey T. Mann, M.D., LL.B., Richmond, Virginia.

Angiocardiography in the Diagnosis of Congenital Heart Disease. Carroll A. Peabody, M.D., Hubert E. Batten, M.D., Lewis H. Bosher, M.D., Richmond, Virginia.

Immunization in Poliomyelitis. Hart E. VanRiper, M.D., National Foundation for Infantile Paralysis, New York, N. Y.

Industrial Health—Small Plants. American Medical Association, Chicago, Illinois.

Diagnosis and Treatment of Some Intracranial Lesions. Edgar N. Weaver, M.D., William P. Tice, M.D., Charles H. Peterson, M.D., Allen Barker, M.D., Charles D. Smith, M.D., John A. Martin, M.D., Roanoke, Virginia.

Plastic Surgery. Leroy Smith, M.D., Richmond, Virginia.

Treatment of Epilepsy. Cary Suter, M.D., Charlottesville, Virginia.

Salivary Gland Tumors. John L. Thornton, M.D., Gordon R. Hennigar, M.D., Richmond, Virginia.

Surgical Treatment of Ulcerative Colitis. George D. Vaughan, M.D., Harry E. Bacon, M.D., Howard D. Trimpi, M.D., Medical College of Virginia, Temple University of Medicine.

Medical Visual Aids in Latex. Theodore N. Webster, Washington, D. C.

Clinical Electroencephalography—New Recording Techniques And Diagnostic Procedures. Isadore Samuel Zfass, M.D., Richmond, Virginia.

Pulmonary Insufficiency in the Newborn. Helen L. Morton, M.D., Gordon R. Hennigar, M.D., Lee E. Sutton, M.D., Richmond, Virginia.

Retroperitoneal Pneumonography. John E. Hill, M.D., A. I. Dodson, Jr., M.D., Joseph W. Hooper, Jr., M.D., Richmond, Virginia.

Diagnosis and Surgical Implications of Segmental Thrombosis In the Lower Extremities. Eugene L. Lowenberg, M.D., Philip B. Parsons, M.D., Joe Lee Frank, Jr., M.D., Norfolk, Virginia.

Insulin Reactions. Robert K. Maddock, M.D., Norfolk, Virginia, and Leo P. Krall, M.D., Boston, Massachusetts.

TECHNICAL EXHIBITS

All exhibits, both technical and scientific, will be set up in the Basement of the Hotel Roanoke. The following is a list of technical exhibitors with a brief description of each exhibit:

Booth No. 1

Zimmer Manufacturing Company

Warsaw, Indiana

Please come by the Zimmer booth to see the latest developments in Fracture and Orthopedic Appliances. Many new items have been added for the general practitioner as well as the othopedic surgeon. Both George and Harley Baxter, distributors, will be on hand to welcome you and answer any of your fracture or orthopedic problems.

Booth No. 2

Mead Johnson & Company

Evansville, Indiana

Mead Johnson & Company will feature Dextri-Maltose, the carbohydrate of choice in infant formulas; Lactum, Mead's complete liquid formula; and Olac, Mead's complete powdered formula. Also to be featured will be Natalins, the new smaller prenatal capsule; vitamin products for infants and children, Poly-Vi-Sol, Tri-Vi-Sol and Mulcin; and the four Pablum Cereals.

Representatives in attendance will be glad to furnish information regarding the above products.

Booth No. 3

Doho Chemical Corporation

New York, New York

Doho Chemical Corporation is pleased to exhibit *Auralgan,* the ear medication for the relief of pain in Otitis Media and removal of cerumen; *Rhinalgan,* the nasal decongrestant which is free from systemic or circulatory effect and equally safe to use on infants as well as the aged; and the *New Otosmosan,* the effective, nontoxic ear medication which is Fungicidal and Bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears. Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring *Rectalgan,* the liquid topical anesthesia, also Bactericidal and Fungicidal for control of secondary invaders.

Booth No. 4

VanPelt and Brown, Incorporated

Richmond, Virginia

VanPelt and Brown extend a cordial invitation to visit their exhibit where representatives will be happy to answer questions and supply clinical samples of their products.

Booth No. 5

Powers and Anderson, Incorporated

Richmond, Virginia

It is our pleasure to invite all members of the Society and their families and guests to visit with us at our booth where we will show the latest in equipment and supplies of interest to the physician. We will have in attendance several of our salesmen from various parts of the State who will be pleased to see all visitors.

Booth No. 6

Parke, Davis & Company

Detroit, Michigan

A cordial welcome awaits you at the Parke-Davis booth. Members of our Medical Service Staff will be on hand to greet you and discuss any of our products in which you may be particularly interested.

Booth No. 7

A. H. Robins Company, Incorporated

Richmond, Virginia

Featured prescription specialties at the Robins booth are the outstanding antitussive-expectorant Robitussin, the analgesic-sedative Phenaphen and Phenaphen with Codeine, and the effective Skeletal-muscle relaxant Mephate. Robins medical service representatives will be in attendance at all times to discuss these and other Robins products with physicians attending the meeting.

Booth No. 8

U. S. Vitamin Corporation

New York, New York

See the "oil-in-water" demonstration of liposoluble vitamins A and D made completely water soluble . . . a vitamin technical achievement originated and developed by the U. S. Vitamin Corporation Research Laboratories.

Three pharmaceutical firsts . . . Vi-Syneral Vitamin Drops—multivitamins in drops solution; Vi-Syneral Injectable—multivitamin parenteral solution and now Vi-Aquamin—aqueous vitamins and minerals in a single capsule.

We cordially invite you to our booth for detailed literature and professional samples.

Booth No. 9

W. B. Saunders Company

Philadelphia, Pennsylvania

Your Virginia Saunders man, Earl Dunham, will again be on hand with all our books of interest to practicing physicians. Among the newer ones: Bakwin & Bakwin's Clinical Management of Behavior Disorders in Children; Parsons & Unfelder's Atlas of Pelvic Operations; American Medical Association's Fundamentals of Anesthesia; Gross' Surgery of Infancy and Childhood; and many more.

Included too will be all Saunders standards such as the Medical and Surgical Clinics of North America.

Booth No. 10

Eli Lilly and Company

Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit.

Antibiotics, cardiac drugs, and antihistamines are featured in the display. Lilly salesman will welcome your questions about these and other recent therapeutic developments.

Booth No. 11

Peoples Drug Stores, Incorporated

Washington, D. C.

Peoples Drug Stores are deeply grateful to the physicians of Virginia for their continued cooperation and support. The members of The Medical Society of Virginia, in attendance at the annual meeting in Roanoke, are cordially invited to visit our booth. Representatives of our Company will be on hand to greet you and furnish information concerning the professional services offered to physicians.

Booth No. 12

Richmond Surgical Supply Company

Richmond, Virginia

This Company will display some of the more interesting recent advancements in medical and surgical supplies and equipment.

Booth No. 13

A. S. Aloe Company

Washington, D. C.

As always, considering the needs of the doctor and the hospital, we offer the finest and latest in equipment and supplies.

Complete selection of Treatment, Office and Waiting Room Furniture, X-Ray, Diathermy, Basal Metabolors, E.K.G., Diagnostic and Surgical Instruments and Supplies.

We are as close as your 'phone. A well trained representative will be glad to visit and discuss your needs with you.

Booth No. 14

General Electric Company

X-Ray Department

Milwaukee, Wisconsin

The General Electric Company, X-Ray Division, will feature their new Direct Writing Electrocardiograph. New x-ray accessory supply items will also be shown. The exhibit will be attended by their Virginia Sales representatives.

Booth No. 15

Chicago Pharmacal Company

Chicago, Illinois

Mr. Rudd Rowan, Virginia representative, welcomes your visit to our booth, which features the following Chimedic products: *Urised,* nationally-known tablet for the relief of cystitis; *Tolyphy,* the improved spasmolysis formula in both tablet and elixir form; *Manncor,* a complete therapeutic formula for hypertension and capillary fragility; as well as other specialties in the injectable, liquid, and ointment line.

Booth No. 17

Kloman Instrument Company

Alexandria, Virginia

The Kloman Instrument Company will exhibit the very latest equipment, instruments and supplies dedicated to serving the modern physician; the equipment will include examining room furniture and the latest in physical therapy equipment plus many new items which have not as yet been nationally advertised and the instruments will include a complete diagnostic grouping and allied items.

Booth No. 18

Lederle Laboratories Division

American Cyanamid Company

New York, New York

You are cordially invited to visit our exhibit where you will find our representatives prepared to give you the latest information on LEDERLE products.

Booth No. 19

Ayerst, McKenna & Harrison

New York, New York

Booth No. 20

The Stuart Company

Chicago, Illinois

You are cordially invited to visit our exhibit where you will find our representatives prepared to give you the latest information on Stuart products.

Booth No. 21

The National Drug Company

Philadelphia, Pennsylvania

The National Drug Company cordially invites you to visit their booth. Dimethylane, AVC Improved and Resion will be displayed. Dimethylane is a new, versatile compound for controlling symptoms of dysmenorrhea, the menopause, and associated tension states. AVC Improved is effective against an extremely wide range of vaginal tract infections. Resion offers a more rapid and more complete control of diarrhea in infants and adults; also for controlling nausea of pregnancy, food poisoning and enteric infections.

Booth No. 23

The Borden Company

New York, New York

There's no better place to talk over the latest information on infant feeding than the Borden Prescription Products booth. On display is the complete line of Borden's infant formula products for every feeding purpose or preference. You can feed almost any baby *Bremil, Mull-Soy, Dryco,* or *Biolac.*

Booth No. 24

Sharp & Dohme, Incorporated

Philadelphia, Pennsylvania

Research data relative to oral penicillin therapy is featured at the Sharp & Dohme technical display. The exhibit endeavors to justify reliance on oral penicillin for the therapy of the majority of penicillin treatable infections, excluding fulminating diseases requiring hos-

pitalization. A resume on the intestinal bacteriostatic agents 'Sulfasuxidine' and 'Sulfathalidine' completes the exhibit. Expertly trained personnel will be present to discuss these observations.

Booth No. 25
Beech-Nut Packing Company
New York, New York

The Beech-Nut Packing Company will again display its fine variety of Strained and Junior Baby Foods. In addition they are proud to present an innovation in the form of a *4-ounce* box for the cereals. This has been accomplished for the convenience of the mothers and insurance of an always-fresh product for the babies.

Booth No. 26
Abbott Laboratories
Baltimore, Maryland

Abbott Laboratories will display PENTOTHAL® Sodium (Sterile Thiopental Sodium, Abbott) the safe, short acting barbiturate for effective use as a primary or secondary agent in anesthesia. Pentothal administered intravenously has acquired a world reputation because of certain decided advantages: Induction is rapid, smooth, easy. Moment-to-moment control is possible during maintenance. Recovery is short and pleasant. Incidence of post-operative complications is low. Explosion and fire hazard is eliminated. Conservation of hospital bed space and personnel is possible because many minor and short operative procedures can be managed in an out-patient department. The properties of Pentothal are discussed in 2,000 world reports during the past 19 years.

Booths No. 27 and 28
The American Tobacco Company
Richmond, Virginia

The Research Laboratory of The American Tobacco Company will demonstrate an automatic smoking machine specially designed to facilitate investigations of the properties of tobacco smoke. This machine simulates human smoking and makes possible a reproducible collection of smoke for anlaysis. Through basic research in this field, means have been found for the scientific selection of tobaccos and the control of quality in manufacture of LUCKY STRIKE cigarettes.

Booth No. 29
Physicians Products Company, Incorporated
Petersburg, Virginia

The Members of The Medical Society of Virginia, their families, and their guests, are cordially invited to stop by and visit with the representatives in attendance at the Physicians Products Company's Display Booth. Our display will feature our line of original Honey-sulfonamide suspensions and other products of interest to practicing physicians.

Booth No. 30
Schering Corporation
Bloomfield, New Jersey

Members of The Medical Society of Virginia and their guests are cordially invited to visit the Schering exhibit where new therapeutic developments will be featured.

Schering representatives will be present to welcome you and to discuss with you these products of our manufacture.

Booth No. 31
The Dominion Laboratories
Richmond, Virginia

The profession is cordially invited to visit the Dominion booth where a representative will be pleased to discuss Dominion products and supply literature describing many of our specialties, *Barbamin* . . .

Camate, a new choice among analgesic and antipyretic drugs will be featured as an antirheumatic; an aid in therapy of arthralgia, myalgia, dysmenorrhea, headache, etc.

Booth No. 32
Ciba Pharmaceutical Products, Incorporated
Summit, New Jersey

Ciba's exhibit features two new agents for more effective management of hypertensive disorders—*Regitine,* for simple and accurate diagnosis of hypertension produced by pheochromocytoma—*Apresoline,* an agent of choice for gradual sustained lowering of blood pressure.

You are invited to visit the Ciba booth for literature on *Apresoline* and *Regitine.*

Booth No. 33
Algro Corporation
Richmond, Virginia

Booth No. 34
Tablerock Laboratories, Incorporated
Greenville, South Carolina

Booth No. 35
Valentine Company, Incorporated
Richmond, Virginia

The Valentine exhibit will feature its new non soluble buffer antacid, *Acichek.* Other products to be exhibited are *Valtwobarb, Multivitamin* Capsules, *Valentine's Meat Extract, Liver Extracts, Hematinic,* liquid and tablets and *Valocell.* Physicians and their families are cordially invited to visit the Valentine booth.

Booth No. 36
Pet Milk Company
St. Louis, Missouri

Specially trained representatives will be in attendance to discuss the use of Pet Evaporated Milk in infant feeding and Pet Nonfat Dry Milk for high protein diets. A variety of services that are time-savers for busy physicians will be furnished on request. Miniature Pet Milk cans will be given to visitors at the exhibit.

Booth No. 37

Burroughs Wellcome & Company (U.S.A.) Inc.

Tuckahoe, New York

'TRILOID'® brand TRICYCLAMOL
COMPRESSED, SUGAR-COATED



For Peptic Ulcers and Gastrointestinal Spasm

'AERODRIN' brand INTRANASAL SOLUTION

- Decongestion without stimulation
- Broad-spectrum antisepsis

Booth No. 39

Churchill Pharmaceutical Company

Richmond, Virginia

Booth No. 40

Camel Cigarettes

New York, New York

Camel Cigarettes will mark your initials on an attractive plastic cigarette case filled with a package of those mild, flavorful CAMELS. This exhibit features a display of some of the tobaccos used in blending this famous cigarette which outsells all other brands by many billions of cigarettes per year.

Booth No. 41

M & R Laboratories

Columbus, Ohio

Your SIMILAC representatives are happy to take part in this meeting. They are pleased to have the opportunity to discuss with you the role of SIMILAC in infant feeding. They have for you the latest Pediatric Research Conference Reports. Also available are current reprints of pediatric nutritional interest.

Booth No. 42

Winthrop-Stearns, Incorporated

New York, New York

Winthrop-Stearns invite you to visit their booth where the following products will be featured—*Fergon Plus,* a combination of the important anti-anemia factors, Vitamin B_{12}, Folic Acid, Ferrous Gluconate and Ascorbic Acid; *Alevaire,* nontoxic inhalant which thins sticky pulmonary secretions in bronchitis, bronchiectasis, and neo-natal asphyxia; *Apolamine,* new synergistic compound for more efficient control of nausea and vomiting due to pregnancy, radiation sickness, and other causes; *Mebaroin,* efficient, well tolerated antiepileptic combination of Mebaral and diphenylhydantoin.

Booth No. 43

Jones & Vaughan, Incorporated

Richmond, Virginia

Jones & Vaughan extends to you a cordial invitation to visit their booth. Here will be featured our complete line of prescription specialties.

Booth No. 44

Sandoz Pharmaceuticals

New York, New York

Cafergot the first effective oral therapy for migraine and related vascular headache—clinically proven in thousands of reported cases since 1949.

Bellergal valuable as an autonomic inhibitor in a variety of functional ills—the volume of favorable clinical reports is constantly increasing.

Hydergine a new approach and new product for hypertension and peripheral vascular diseases.

Fiorinal a new approach to therapy of tension headache and other head pain due to sinusitis and myalgia.

A variety of informational brochures will be available and our representatives will be happy to provide full information concerning the above and other ethical pharmaceutical products of the Sandoz organization.

Booth No. 45

C. B. Fleet Company, Incorporated

Lynchburg, Virginia

C. B. Fleet Company cordially invites you to see the exhibit of Phospho-Soda (Fleet). Phospho-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 gm. and sodium phosphate 18 gm.

Phospho-Soda (Fleet) over the years has won discriminating preference by thousands of physicians—because of its controlled action—its freedom from undesirable side effect—and its ease of administration.

There is only *one* Phospho-Soda (Fleet).

Booth No. 46

Wm. P. Poythress & Company, Incorporated

Richmond, Virginia

You are cordially invited to visit the Poythress exhibit. It will feature *Trocinate,* an antispasmodic drug of exceptional potency and extremely low toxicity. Also featured will be the well known proprietary specialties, *Solfoton, T.C.S.* and *Panalgesic.*

Mr. A. Carter Jones will be in attendance.

Booth No. 47

E. R. Squibb & Sons

New York, New York

New Squibb products, and new brochures of useful interest to you on products already introduced, will be featured at our booth.

As in former years, your Squibb representative again cordially invites you to visit the Squibb booth.

Booth No. 48
Ortho Pharmaceutical Corporation
Raritan, New Jersey

Ortho cordially invites you to visit their exhibit. The Ortho display will feature *Preceptin* ® vaginal gel, their new product for conception control designed for use without a vaginal diaphragm. Preceptin vaginal gel has achieved an outstanding record of clinical effectiveness and has been widely acclaimed by the medical profession. Your inquiries on Preceptin vaginal gel are invited.

Booth No. 49
Abbitt Pharmaco, Incorporated
Newport News, Virginia

Your membership has been most cordial to our representatives and it is with true pride that we anticipate the privilege of exhibiting and discussing our ethically promoted products which we will limit to our highly accepted Vitamin-Mineral tapered capsule, Lactol, Abborate and Bellapenta, in both the tablet and the elixir.

May this convention be the best yet.

Booth No. 50
Meridian Electronic Equipment Company
Richmond, Virginia

This year, Meridian Electronic Equipment Company presents the most recent developments in magnetic recording equipment, High Fidelity music equipment, intercommunication systems, paging and nurses call systems. All of this equipment, manufactured by the leading firms in the industry, is available through Meridian, who maintain complete engineering and service facilities.

Booth No. 51
The Baker Laboratories, Incorporated
Cleveland, Ohio

You are cordially invited to visit our booth where medical service representatives will be glad to discuss with you the clinical application of Baker's Modified Milk and Varamel, two outstanding products that are making new progress in successful infant feeding.

Booth No. 52
G. D. Searle & Company
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Vallestril, the new synthetic estrogen with extremely low incidence of side reactions; Banthine and Pro-Banthine, the standards in anti-cholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nauseas.

Booth No. 53
The Coca-Cola Company
New York, New York

Ice cold Coca-Cola served through the courtesy and cooperation of the Roanoke Coca-Cola Bottling Works, Incorporated, and The Coca-Cola Company.

THE PLAQUE "TO ALL MY PATIENTS" which encouraged patients to discuss fees with the doctor, so impressed Mr. Donald K. Carroll, Chairman of the Public Relations Committee for the Florida Bar, that he is planning to use a similar idea for display in lawyers' offices. Mr. Carroll expressed great admiration for the public relations job which is being done by the medical profession.

FLORIDA MEDICAL ASSOCIATION

DELEGATES TO 1953 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed, it is indicative that no delegate or alternate was reported.

Delegates	*Alternates*
Accomack	
Dr. Joseph L. DeCormis	Dr. Belle D. Fears
Albemarle	
Dr. McLemore Birdsong	Dr. B. S. Leavell
Dr. T. S. Edwards	Dr. J. R. Morris
Dr. A. P. Booker	Dr. J. B. Twyman
Dr. D. C. Wilson	Dr. W. O. Klingman
Dr. F. D. Daniel	Dr. A. M. Smith, Jr.
Dr. R. D. Herring, Jr.	Dr. W. E. Moody
Alexandria	
Dr. Ben C. Jones, Jr.	Dr. John A. Sims
Dr. James W. Love	Dr. Charles V. Amole
Alleghany-Bath	
Dr. H. G. Hudnall	Dr. Allen LeHew
Dr. I. T. Hornbarger	Dr. S. P. Hileman
Amherst-Nelson	
Dr. Lyddane Miller	Dr. Julio Jimenez
Arlington	
Dr. Harry C. Bates	Dr. John T. Hazel
Dr. W. C. Welburn	Dr. J. E. Payne
Augusta	
Dr. Alex F. Robertson	Dr. Thomas G. Bell
Dr. Guy R. Fisher	Dr. Charles L. Savage
Bedford	
Dr. C. R. Titus	Dr. W. V. Rucker
Botetourt	
Buchanan-Dickenson	
Dr. T. C. Sutherland	Dr. J. C. Moore
Dr. J. P. Williams	Dr. J. P. Sutherland
Charlotte	
Culpeper	
Dr. J. B. Jones	Dr. O. K. Burnette
Danville-Pittsylvania	
Dr. J. J. Neal	Dr. J. J. Marsella
Dr. H. J. Langston	Dr. S. C. Hall, Jr.
Fairfax	
Dr. J. D. Zylman	Dr. Emanuel Newman
Fauquier	
Dr. Stuart McBryde	Dr. Wade Payne
Floyd	
Fourth District	
Dr. John G. Graziani	Dr. Thomas G. Hardy
Dr. L. H. Bracey	Dr. H. H. Braxton
Dr. J. T. O'Neal	Dr. J. M. Habel
Dr. Meade Edmunds	Dr. Carney Pearce
Dr. E. M. Bane	Dr. W. B. Bishop
Fredericksburg	
Dr. D. W. Scott, Jr.	Dr. Lee Earnhardt, Jr.
Dr. John Smoot	
Halifax	
Dr. N. H. Wooding	
Hampton	
Dr. Frank A. Kearney	Dr. Oscar W. Ward, Jr.
Hanover	
Dr. James D. Hamner	
James River	
Dr. W. A. Pennington	Dr. Garland Dyches
Dr. J. H. Yeatman	Dr. A. C. Whitley
Dr. E. B. Nuchols	Dr. Nash Snead
Lee	
Dr. G. B. Setzler	Dr. T. S. Ely
Loudoun	
Dr. Roy B. Sampson	
Louisa	
Dr. John W. Barnard	
Lynchburg	
Dr. George B. Craddock	Dr. John W. Davis, Jr.
Dr. Harold L. Riley	Dr. Clarence E. Keefer
Mid-Tidewater	
Dr. H. A. Tabb	Dr. James Smith
Dr. T. L. Groves	Dr. A. L. VanName, Jr.
Dr. R. D. Bates	
Dr. R. B. Bowles	Dr. J. R. Gill
Dr. Joseph W. Chinn	Dr. J. M. Gouldin
Dr. A. W. Lewis, Sr.	Dr. W. H. Hosfield
Dr. J. R. Parker	
Norfolk	
Dr. R. M. Cox	Dr. John O. Rydeen
Dr. George A. Duncan	Dr. William S. Hotchkiss
Dr. Kalford W. Howard	Dr. Forrest P. White
Dr. Robert L. Payne, Jr.	Dr. John G. Sellers
Dr. W. H. Whitmore	Dr. John H. Hill
Dr. John Alexander	Dr. Robert E. McAlpine

Delegates	*Alternates*
Northampton	
Dr. William J. Sturgis, Jr.	
Northern Neck	
Dr. J. Motley Booker	
Dr. A. B. Gravatt, Jr.	Dr. Melvin Lamberth
Dr. Paul C. Pearson	Dr. H. E. Sisson
Dr. C. Y. Griffith	Dr. E. T. Ames
Northern Virginia	
Dr. Harold W. Miller	Dr. F. W. Gearing, Jr.
Dr. C. L. Riley	Dr. James A. Miller
Dr. Frank Tappan	Dr. C. H. Iden
Dr. Elliott Haley	Dr. Raymond K. Butler
Dr. John P. Snead	Dr. Edwin M. Eastham, Jr.
Dr. George Long	Dr. M. J. W. White
Orange	
Patrick-Henry	
Dr. H. M. Price	Dr. J. H. Irby
Dr. B. A. Hopkins	Dr. W. N. Thompson
Princess Anne	
Dr. Ira L. Hancock	Dr. Ralph A. Stata
Richmond Academy	
Dr. Charles L. Outland	Dr. W. R. Morton
Dr. William R. Hill	Dr. Carrington Williams, Jr.
Dr. Wellfford C. Reed	Dr. Weir Tucker
Dr. W. Linwood Ball	Dr. St. George Tucker
Dr. Benjamin W. Rawles, Jr.	Dr. Walter Buffey
Dr. Charles M. Nelson	Dr. Virgil May
Dr. R. D. Butterworth	Dr. Robley Bates
Dr. Kinloch Nelson	Dr. J. O. Burke
Dr. Paul D. Camp	Dr. Emily Gardner
Dr. Adney K. Sutphin	
Dr. William H. Higgins, Jr.	Dr. W. H. Harris, Jr.
Dr. William A. Young	Dr. Fleming Gill

Delegates	*Alternates*
Roanoke Academy	
Dr. C. D. Nofsinger	Dr. Hugh J. Hagan
Dr. Allen Barker	Dr. Hugh H. Trout, Jr.
Dr. John E. Gardner	Dr. E. Berkeley Neal
Dr. M. A. Johnson, III	Dr. H. B. Stone, Jr.
Dr. R. S. Hutcheson, Jr.	Dr. Charles M. Irvin
Dr. David S. Garner	Dr. George S. Hurt
Rockbridge	
Rockingham	
Dr. Hollen G. Helbert	Dr. J. C. Harshbarger
Russell	
Dr. Robert F. Gillespie	Dr. W. C. Elliott
Scott	
Southwestern Virginia	
Dr. V. J. Cox	Dr. W. A. Porter
Dr. E. L. Bagby	Dr. S. A. Tuck
Dr. Joseph Coates	Dr. W. V. Harrison
Dr. J. J. Giesen	Dr. J. T. Showalter
Dr. W. F. Delp	Dr. H. B. Brown, Jr.
Dr. R. D. Campbell	Dr. J. J. Eller
Dr. C. J. Harkrader, Jr.	Dr. S. H. Catron, Jr.
Dr. C. F. Graham	Dr. S. W. Huddle
Tazewell	
Dr. M. E. Johnston	Dr. Rufus Brittain
Tri-County	
Dr. O. R. Yates	Dr. W. N. Eddy
Dr. Hugh Warren	Dr. L. H. Alexander
Dr. J. W. Lambdin	Dr. H. L. Gardner
Warwick-Newport News	
Dr. W. A. Read	Dr. E. B. Mewborne
Dr. Russell Buxton	Dr. J. W. Carney
Williamsburg-James City	
Dr. Joseph E. Barrett	Dr. Granville L. Jones
Wise	
Dr. W. B. Barton	Dr. T. J. Tudor

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ... Mrs. Thomas N. Hunnicutt, Jr., Newport News
President-Elect ... Mrs. Kalford W. Howard, Portsmouth
Recording Secretary ... Mrs. Lee Liggan, Irvington
Corresponding Secretary ... Mrs. F. A. Carmines, Jr., Newport News
Treasurer ... Mrs. William C. Barr, Richmond
Parliamentarian ... Mrs. R. M. Reynolds, Ocean View
Historian ... Mrs. C. M. McCoy, Norfolk

The Thirty-first annual meeting of the Woman's Auxiliary to The Medical Society of Virginia will be held at the Roanoke Hotel, Roanoke, on Tuesday, October 20, at 9:15 a. m.

A most cordial invitation is extended to all women who are Auxiliary members, or guests of physicians attending the Convention of The Medical Society of Virginia, to participate in all social functions and to attend the general session. Auxiliary member or not, wives of doctors will be most welcome.

Each lady is urged to register promptly upon arrival in Roanoke.

Headquarters: Hotel Roanoke

Registration booth, located in the writing foyer adjacent to the Pine Room will be open for registration:

Sunday, October 18, 4:00 - 8:00 P.M.
Monday, October 19, 10:00 A.M. - 4:00 P.M.
Tuesday, October 20, 9:00 - 10:00 A.M.

Committees

Arrangements ... Mrs. Phillip C. Trout, Mrs. William M. Moir
Registration ... Mrs. Reverdy Jones, Mrs. William Kaufman
Transportation ... Mrs. Frank Farmer, Mrs. Charles D. Smith
Secretary and Treasurer ... Mrs. Edwin Palmer
Publicity ... Mrs. Harry B. Stone, Jr., Mrs. John O. Boyd, Jr.
Printing ... Mrs. Charles Young, Jr.
Hospitality ... Mrs. Marcellus Johnson, III, Mrs. William Hatcher
Pages ... Mrs. Algie Davis, Mrs. Robert F. Bondurant
Decorations ... Mrs. W. W. S. Butler, Mrs. C. D. Nofsinger
Luncheon ... Mrs. John Gardner, Mrs. David Gardner
Fashion Show ... Mrs. Calvin Burton, Mrs. Homer Bartley
Timekeeper ... Mrs. J. R. B. Hutchinson

PROGRAM

Monday, October 19

2:30 P.M.—Pre-Convention Board Meeting, Pine Room
Presidents of Component Auxiliaries, State Officers and Chairmen of all Committees are expected to attend.

Tuesday, October 20

9:15 A.M.—General Annual Meeting, Pine Room
All women attending the Convention are cordially invited to attend.
Mrs. Thomas N. Hunnicutt, Jr., president, presiding.
Invocation—Mrs. C. M. McCoy, Convention Chaplain
Address of Welcome—Mrs. Harry B. Stone, Jr.
Response—Mrs. Waverly R. Payne
In Memoriam—Mrs. C. M. McCoy
Minutes
Roll Call
Presentation of Honored Guests
Report of Credentials Committee, Mrs. Reverdy Jones
President's Report
Report of Officers
Report of Chairmen of Standing and Special Committees
Report of Councilor to Southern—Mrs. Herman W. Farber
Speaking to this report:
Mrs. R. F. Stover, President of the Auxiliary to the Southern Medical Association
Report of County Auxiliary Presidents
Report of the Annual Convention of the Woman's Auxiliary to the American Medical Association, Mrs. Randolph H. Hoge
Speaking to this report:
Mrs. Leo J. Schaeffer, President of the Woman's Auxiliary to the American Medical Association
Unfinished Business
New Business
Recommendations from the Board
Report of Committee on Revisions, Mrs. Paul Pearson
Report of Committee on Resolutions, Mrs. Maynard Emlaw

Report of Nominating Committee, Mrs. Herman W. Farber
Election of Officers
Installation of Officers, Mrs. R. M. Reynolds, Parliamentarian
Presentation of Gavel
Acceptance of Gavel and Inaugural Address, Mrs. Kalford W. Howard
Adjournment

LUNCHEON

1:30 P.M.—Rockledge Inn, Mill Mountain
Honoring especially invited guests of The Medical Society of Virginia and of the Auxiliary, with their husbands and wives; Honorary members; the retiring and incoming presidents of The Medical Society of Virginia and their wives; the presidents of the Woman's Auxiliary to the American Medical Association and the Southern Medical Association; and the Chairman of the Advisory Committee and his wife.
Invocation—Mrs. C. M. McCoy
Presentation of Honored Guests
Fashion Show
Adjournment

Wednesday, October 21

8:15 A.M.—Past President's Breakfast, Virginia Room, Mrs. Herman W. Farber, Chairman
9:30 A.M.—Post Convention Board meeting—Mrs. Kalford W. Howard, presiding
Presidents of Component Auxiliaries, State Officers and Chairmen of all Committees are expected to attend.

Southern Auxiliary Planning Streamlined Convention.

Mrs. Richard F. Stover, President of the Woman's Auxiliary to the Southern Medical Association, has announced that the convention to be held in Atlanta, Georgia, October 26-29 will be streamlined so that time may be given to the members for shopping, being with their husbands and visiting with friends.

All regular meetings of the Auxiliary will be held at the Henry Grady Hotel, where there will, also, be a registration booth; another registration booth and exhibits will be at the Municipal Auditorium. Meetings are planned as follows: Tuesday 10 A.M. to 12 Noon, Wednesday 10 A.M. to 11:30 A.M.

Mrs. Leo J. Schaefer, President of the Woman's Auxiliary to the American Medical Association, will be guest speaker and Mrs. Stanley A. Hill, Corinth, Mississippi, will be installed as president at the Wednesday morning meeting.

A Research and Romance of Medicine Luncheon or Tea will be held on Tuesday. Dr. Frank G. Slaughter, famous surgeon and novelist will be the guest speaker. A Doctor's Day Luncheon honoring two "Doctors of the Year from the South", Dr. William L. Pressly, Due West, S. C. and Dr. N. M. Travis, Jacksonville, Texas, will be held at the Atlanta Athletic Club on Wednesday at 12:15 P.M. There will be an outstanding speaker for this luncheon. All auxiliary members and their husbands are invited.

Mrs. E. A. Bancker, Chairman of the Arrangements Committee, has advised that many reservations have already been made at the hotels in Atlanta. If you have not already done so, it is suggested that you make your hotel reservations now. Address your request for reservations as follows: Bureau of Housing, Southern Medical Association, 801 Rhodes-Haverty Building, Atlanta 3, Georgia.

EDITORIAL

Dr. John Robinson Gildersleeve, 1843-1918

MY EARLIEST recollection of The Medical Society of Virginia concerns Dr. John R. Gildersleeve. He just sat around greeting old friends and diffusing a friendly atmosphere; I do not recall that he took any active part in the meeting. He seemed to me to be the very embodiment of what a retired physician should be—a sort of social catalyst. In the winter, he usually could be found in the Westmoreland Club, reading in the library.

Dr. Gildersleeve was a native of Charleston, S. C., a son of the Rev. Benjamin and Emma Louisa (Lanneau) Gildersleeve. An elder brother was the eminent philologist, Basil L. Gildersleeve, who taught for so many years at the University of Virginia and



John Robinson Gildersleeve, M.D.

who, when the Hopkins was started, went to Baltimore as one of the original members of President Gilman's great faculty. He was an authority in Sanskrit and looked the part. Perhaps he was more widely known for his *Latin Grammar.*

John Robinson Gildersleeve was born June 12, 1843 and received his academic education from private instructors and schools in Richmond. He attended the University of Virginia for the session of 1860-1861 at the end of which time he and other members of his class entered the Confederate service. He later completed the study of medicine at the Medical College of Virginia from which he graduated in 1864. He became acting assistant surgeon in the Chimborazo Hospital. Among his fellow

assistant surgeons were George Ross, John G. Trevillian, W. B. Gray, and H. Cabell Tabb, who later became prominent Richmond physicians.

At the close of the War he located in Tazewell and soon became one of the prominent physicians of Southwest Virginia. He was the recipient of many honors from the people of his adopted home and was identified with the lay as well as the medical interests of that community. He was a member of the Board of Directors of the Southwestern Virginia State Hospital and a member of the Confederate pension board. Besides he was a surgeon to the Browne-Harmon Camp of Confederate Veterans.

In 1870 Dr. Gildersleeve became a charter fellow of the revived Medical Society of Virginia. He took an active interest in the Society and his face was a familiar one at the annual meetings. One year he was a delegate to the American Medical Association and in 1900 he was elected president of The Medical Society of Virginia. Later the Tristate Medical Association of Virginia and the Carolinas made him its president. After his retirement from practice he spent the winters in Richmond, but he kept up his interest in his confreres. He died suddenly in his seventy-fifth year of heart disease, a condition he had had for several years, and was buried in Hollywood Cemetery.

I give you a cultured gentleman who practiced in the golden age of medicine when our art suffered little outside interference and needed no propaganda.

Floral Eponym

BARBIER, JEAN BAPTISTE GRÉGOIRE, 1780-1865.

BARBIERIA.

A French physician who was born in Amiens and graduated in medicine at Paris. He returned to Amiens where he taught botany in Jardin des Plantes. He was physician to the Hôtel-Dieu and Professor of Materia Medica and Hygiene and later of Medicine. Barbier wrote a number of books on therapeutics and hygiene besides a great number of articles in the medical magazines.

Barbieria is a hothouse evergreen from tropical America.

NEWS

1953 Committee Reports

The attention of the members of The Medical Society of Virginia is invited to the reports of the various committees, the list of delegates to the Annual Meeting, and the program of the Woman's Auxiliary, all appearing in this issue.

Society progress and achievement must be measured in terms of committee activity, and it is to the advantage of each member to know what has been accomplished during the past twelve months, and what might be expected in the future.

An Appreciation of Dr. Walter B. Martin by the Staff of Norfolk General Hospital.

When on May 7, 1847, the American Medical Association was organized, a Virginian was elected to its presidency. Since that time scarcely more than half a dozen Virginians have been elected to the high office and of these only three were elected from The Medical Society of Virginia. If, in any period of its existence, it has been desirable that the Association shall have the guidance of one who thinks clearly and who has the courage of strong conviction, the present state of world affairs would seem to present such a need.

Fortunately, at its recent meeting the American Medical Association again turned to Virginia and to The Medical Society of Virginia for leadership, and by electing to the exalted position of President-elect our fellow member, Walter B. Martin, assured that type of guidance so emphasized in recent years.

For those of us who for many years have been associated with Dr. Martin, know that, by reason of his wide experience in both private practice and in brilliant Military Service, comprising every aspect of the application of Medical Science to the prevention and cure of disease, and also because of his long service in the legislative councils of local, State and National Associations, he is eminently qualified for the ponderous duties of the office to which he has been elected.

Therefore we, the members of the Attending Staff of the Norfolk General Hospital, congratulate the American Medical Association for their keen recognition of ability. Also, we congratulate Dr. Martin for the possession of those qualities that have led to the bestowal upon him of this high office, and assure him of our sincere appreciation of the honor he has brought to the members of this Staff.

Be It Further Resolved, that this resolution be incorporated in the records of this Staff, and that a copy be presented to Dr. Martin, and one to the Virginia Medical Monthly.

C. L. Harrell, M.D.
M. S. Andrews, M.D.
N. G. Wilson, M.D., *Chairman*

The Fauquier County Medical Society,

At a meeting on July 21, elected the following officers: President, Dr. William R. Pretlow; president-elect, Dr. James L. Dellinger; and secretary-treasurer, Dr. Paul K. Candler. All are of Warrenton. Dr. Evan Ashby, Jr., of Remington was accepted as a member of the Society at this time.

The Southwestern Virginia Medical Society

Will meet in Pulaski, Virginia on September 17 at 2:00 P.M., at the Maple Shade Inn. The following program has been arranged:

Panel Discussion—"Problems in Obstetrics"

"Management in the Third Stage of Labor"— Dr. H. H. Ware, Richmond

"Management of Hemorrhage in the Last Trimester of Pregnancy"—Dr. Rufus Ellett, Roanoke

"Bleeding in the First Trimester of Pregnancy"—Dr. T. G. Todd, Bristol

"Use and Abuse of Tubal Ligation"—Dr. T. H. Haas, Radford

Subject to be chosen—Dr. George Hurt, Roanoke

and

"Surgical Treatment of Patent Ductus Arteriosus with Case Reports"—Dr. Horace Albertson, Roanoke

"Granuloma of the Kidney with Case Report"—Dr. W. S. Credle, Bristol

The social hour will be at 6:00 P.M. in the Hunt Room and the banquet at 7:00 P.M. Invocation by Rev. Charles G. Tusing, Pastor of The Lutheran Church.

The after dinner speakers will be Dr. Susan Dees, Department of Pediatrics, Duke University, and Dr. Walter B. Martin, President-elect of A.M.A., Norfolk.

Dr. Austin I. Dodson,

Richmond, by invitation addressed the Puerto Rico Urological Association on July 17 and 18. He was one of two doctors from the United States so honored.

The American College of Surgeons.

The 39th Annual Clinical Congress of the College will be held in Chicago October 5 to 9, 1953, with headquarters at The Conrad Hilton Hotel. There will be postgraduate courses, forums, symposia, panel discussions, color television programs, medical motion pictures, ciné clinics and exhibits, all concerned with developments in surgery.

The Monday evening meeting will feature an address by President Harold L. Foss on "The American College of Surgeons, Its Obligations and Responsibilities, Never Greater Than Now" and the Eighth Martin Memorial Lecture by Sir James Paterson Ross, Vice-President of the Royal College of Surgeons of England.

The scientific session on Wednesday evening will include the Oration on Trauma by William L. Estes, Jr., Bethlehem, Pa., and reports by J. William Hinton, New York, and Francis D. Moore, Boston.

At the Convocation evening, October 9, Dr. Fred W. Rankin, Lexington, Kentucky, will be installed as president for the 1954 year. His address will be entitled "The Responsibility of a Heritage of Idealism." New Fellows will be received into the College and Honorary Fellowships conferred.

Dr. Evarts A. Graham is Chairman of the Board of Regents of the American College of Surgeons, which has a fellowship of more than 18,500 in the United States, Canada and other countries. Dr. Paul R. Hawley is the Director.

Conference on Crippled Children.

The Third Annual Conference on Crippled Children will be held at the Baruch Auditorium of the Medical College of Virginia in Richmond on Monday and Tuesday, October 5th and 6th, 1953. Again this year The Nemours Foundation of Wilmington, Delaware has asked the Virginia Council on Health and Medical Care to sponsor a conference for them. The theme of the Conference is "Growth and Development of the Crippled Child". Medicine's and education's responsibility to the handicapped child will be the main point of emphasis. There will be a number of demonstrations.

Medicine's responsibility will be presented by Dr. Samuel M. Wishik, professor of Maternal and Child Health at the University of Pittsburgh, and Dr. Bess Goodykoontz, Director of Comparative Education of the Division of International Education of the Department of Health, Education and Welfare in Washington, will present education's responsibility.

All physicians are invited to attend this conference. If additional information is desired it can be secured by writing to Edgar J. Fisher, Jr., Director, Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond 19, Virginia.

A New Director at De Paul Hospital, Norfolk.

Dr. Harold Joseph Jacobs of New Orleans, La., has been appointed Director of the Cardiac and Pulmonary laboratories and also Director of Medical Education at De Paul Hospital, Norfolk, Va. The position will carry with it a two-fold responsibility:

1. To establish and operate a laboratory for the detailed diagnosis of cardiac conditions over and above the routine studies of electrocardiography, fluoroscopy, etc. The Cardiac Laboratory will be set-up for cardiac catheterization and angiocardiography with investigative as well as purely clinical work. Dr. Jacobs is well qualified for this task. He played a major role in the creation, operation and maintenance of a similar laboratory in Charity Hospital in New Orleans.

2. To reorganize and coordinate the program of intern and resident education. He is an unusually well trained internist and a good teacher with a thorough grasp of medical education at the graduate level.

Dr. Jacobs, who is certified by the American Board of Internal Medicine, received his B.S. and M.D. degrees from L.S.U. and was clinical instructor of internal medicine on the L.S.U. staff for several years. While in the Air Force he spent two years on research in Aviation Medicine.

Virginia State Board of Medical Examiners.

Governor Battle has appointed Dr. Russell M. Cox of Portsmouth and Dr. John C. Watson of Alexandria as new members of the Board for the Second and Tenth Congressional Districts. He also reappointed Dr. Waverly R. Payne of Newport News for the First district and Dr. Henry S. Liebert of Richmond as the osteopathic member. Dr. Raymond B. Francis of Richmond was appointed as the naturopathic member. All the terms run through June 30, 1958.

Addition to Alleghany Memorial Hospital.

The new two-story wing of the Alleghany Memorial Hospital at Covington was formally dedicated

on July 12, followed by a public tour of the structure. The new wing has twenty-eight beds on the second floor, and the business office, waiting rooms, dining room for nurses, and space for a kitchen on the first floor. It is expected that a third floor will be added later in the year.

Graduate Course in Charleston, W. Va.

The Kanawha Medical Society is offering a one-day graduate course on "Recent Advances in Cardiac Therapy" for practicing physicians, on September 16, from 9:00 A.M. to 5:00 P.M. The course will be given in the Daniel Boone Hotel at Charleston, W. Va., and an interesting out-of-state faculty has been named. The talks will be informal with the use of lantern slides, and the material presented will be of a practical nature. There is no registration fee and all physicians of Virginia are invited and urged to attend.

Maryland Academy of General Practice.

More than 400 physicians from Maryland, District of Columbia, Virginia, Delaware and Pennsylvania are expected to attend the instructive day-long program of post-graduate lectures arranged for the Maryland Academy of General Practice at the Lord Baltimore Hotel, Baltimore on October 21.

Six outstanding clinicians and teachers will address the Academy—coming from Boston, New York City, Philadelphia, District of Columbia—on problems in medicine, surgery, obstetrics, and endocrinology. They will present timely and practical information on "Late Complications of Diabetes", "Management of Cardiac Failure", "Indication for Pulmonary Resection", "Management of Osteoporosis", "X-ray Diagnosis of Pregnancy", and "The Newer Treatment of Asthma".

The highlight of the annual banquet in the evening will be an address by Alfred P. Haake, Ph.D., author, lecturer and economic consultant to the *General Motors Corporation*. Dr. Haake's topic is "Pills and People".

All practicing physicians, hospital residents and internes of Virginia are cordially invited to be present, and the Committee urges that the physicians bring their wives. An interesting program, including luncheon, is being arranged for them.

There is no registration fee for the scientific program. The tickets for the banquet may be obtained from Dr. Nathan E. Needle, 4215 Park Heights Avenue, Baltimore 15, Maryland, at a charge of $7.50 per plate for physicians, and $5.00 for their wives.

The South Dakota Board of Medical Examiners

Has announced the passage of legislation creating an annual registration fee for licensees in that state in the amount of $2.00. The registration takes effect January 1, 1954. If you are licensed in South Dakota and wish to maintain that license by payment of the registration fee, please contact the South Dakota Board of Medical Examiners, 300 First National Bank Building, Sioux Falls, South Dakota.

New Appointees on Stuart Circle Hospital Staff.

Stuart Circle Hospital, Richmond, announces the following appointments to its staff: Dr. Wyndham B. Blanton, Jr., in Medicine; Dr. Edward G. Davis, Jr., in Pediatrics; and Dr. Hunter S. Jackson in plastic surgery.

Medical Symposium at Duke.

The Duke University School of Medicine at Durham, N. C., again invites physicians of North and South Carolina, Virginia and neighboring counties in Tennessee to attend a medical symposium on the Duke University campus on December 1 and 2. The theme selected for this year is "Psychiatry for the Non-Psychiatrist". The speakers will be psychiatrists familiar with the problems of the non-psychiatric physician practicing in the community. The program, which will concern itself with the frequent emotional adjustment problems at different age levels, with "Psychosomatic Medicine in Everyday Practice", and a section on "Front Line Psychiatry in Modern War", "Psychiatry in Industry", and "Rural Psychiatry", will be mailed in October.

Roanoke's Commissioner of Health Resigns.

Dr. J. N. Dudley, who has been commissioner of health of Roanoke since September 1946, has resigned, effective August 24, to accept a position with the Lovelace Clinic at Albuquerque, New Mexico. This is a private group of about thirty doctors that practices in all fields of medicine.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its Fall Clinical Session in Richmond, November 30, December 2 and 3 (Monday through Thursday). The first two days will be devoted to

Otolaryngology, and the second two days to Ophthalmology. This meeting is open to all interested specialists in the United States. Inquiries for information should be addressed to Dr. P. N. Pastore, Box 25, 1200 East Broad Street, Richmond 19, Virginia.

Mrs. Plyler's Nursing Home,

Richmond, is adding a new wing to its building at 1613-15-17 Grove Avenue thus increasing its capacity to 50 beds. This home was established in the early thirties by Mrs. Plyler and her sister, and is presently operated by Mrs. Plyler's niece, Mrs. Gene Clark Regirer. It has twenty-four hour nursing care under the supervision of the patient's own physician. The Home is completely equipped with every convenience and has a lovely lounge room with library and television for use of the patients.

Plant Tours of Detroit Facilities.

Approximately 4,000 employees of Parke, Davis & Company will see how their individual jobs fit into the drug firm's overall operations at Detroit during unique plant tours in the next six weeks.

The employees, who will be paid for the time required to make the tours, will take the trips during regular working hours. There will be eight groups of 15 each on the daily tours, which will last four hours and include a refreshment break in the company's snack bar. Daily production would be maintained, because only a limited number from each department would be assigned to the groups at a time.

Special plant guides, who conduct regular company tours for medical and pharmaceutical groups, will explain the various manufacturing, research and administrative processes. The tours began August 10 and, at the rate of 120 persons per day, will take approximately six weeks to complete.

The American Public Health Association

Will hold its 81st annual meeting in New York City, November 9-13, at Hotels Statler and New Yorker. More than 5,000 workers in forty related organizations interested in preventing disease and promoting personal and public health are expected to attend. Presentation of the Sedgwick Memorial Medal for distinguished service in public health and the Lasker Awards for 1953 for outstanding contributions in medical research and public health administration are to be highlights of the meeting. Further information may be obtained from the Association headquarters, 1790 Broadway at 58th Street, New York City 19.

Dr. J. Marion Bryant,

Class of '42, University of Virginia, School of Medicine, recently connected with the University of Michigan Hospital at Ann Arbor, has moved to New York. There he is with the Department of Medicine of New York University Post-Graduate Medical School where, as of July 1, he was appointed assistant professor of Medicine and is in charge of in-patient cardiology Fourth Medical Division at Bellevue Hospital.

New Members for World Medical Association.

Leading medical advertising agencies are participating in a campaign to encourage American doctors to join the United States Committee of the World Medical Association. The world group is devoted to the interest of freedom in medicine and to the exchange of new medical experiences. Other advantages to physicians are letters of introduction to foreign groups for use during trips; representation before the World Health Organization and others; and quarterly Bulletins reporting medical advances.

Contributing to the campaign are L. W. Frolich & Company; William Douglas McAdams; Noyes & Sproul; Cortez Enloe; Paul Klemptner; and Robert Wilson.

The National Gastroenterological Association

Will hold its eighteenth annual convention and scientific sessions at The Biltmore Hotel in Los Angeles on October 12, 13, 14, 1953. The program will include a Symposium on Cirrhosis of the Liver; Panel Discussions on "Peptic Ulcer"; "Diseases of the Large Bowel" and "Latest Developments in Cancer Research". There will be additional papers on interesting subjects in gastroenterology and related fields.

Following the Convention, on October 15, 16, 17, the Association's annual course in Postgraduate Gastroenterology will be given at The Biltmore Hotel and the College of Medical Evangelists in Los Angeles. The Course will be under the personal direction of Drs. Owen H. Wangensteen of Minneapolis, Minn., and I. Snapper of Chicago, Ill., who will be

assisted by a faculty from the medical schools in and around Los Angeles.

The Scientific Sessions on October 12, 13 and 14 are open to all physicians without charge. The Postgraduate Course will only be open to those who have matriculated in advance. Further information concerning the program and details of the Postgraduate Course may be obtained by writing to the Executive Officer, National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

Fellowships for Basic Research in Arthritis.

The Arthritis and Rheumatism Foundation is offering the following research fellowships in the basic sciences related to arthritis:

1. Predoctoral fellowships ranging from $1,500 to $3,000 per annum, depending on the family responsibilities of the fellow, tenable for 1 year with prospect of renewal.

2. Postdoctoral fellowships ranging from $3,000 to $6,000 per annum, depending on family responsibilities, tenable for 1 year with prospect of renewal.

3. Senior fellowships for experienced investigation will carry an award of $6,000 to $7,500 per annum and are tenable for 5 years.

The deadline for applications is November 1, 1953. Applications will be reviewed and awards made by February 15, 1954.

For information and application forms address the Medical Director, The Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, N.Y.

The American Goiter Association

Again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association to be held in Boston, Mass., April 29, 30 and May 1, 1954, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English, and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany 10, New York, not later than January 15, 1954.

The American College of Chest Physicians

Will hold its 20th annual meeting in San Francisco, California, June 17-20, 1954. Physicians interested in presenting scientific papers on any phase in the diagnosis and treatment of heart and lung disease should send a 100 word abstract, not later than January 1, 1954, to Dr. Edgar Mayer, Chairman of the Committee on Scientific Program, 850 Fifth Avenue, New York 21, New York.

Prize Essay on Cardiac Surgery.

The Trustees of the Caleb Fiske Prize of the Rhode Island Medical Society announce as the subject for this year's prize dissertation "RECENT ADVANCES IN CARDIAC SURGERY". The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of $250 is offered.

For complete information regarding the regulations write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, R. I.

Eli Lilly & Company's Help.

The appeal of American Staff Sergeant Carl G. Hanson and a Catholic chaplain in behalf of 300 Korean war orphans found a response in Indianapolis recently. A gift shipment of tincture of 'Merthiolate' (Thimerosal, Lilly) is on its way from Eli Lilly and Company to Father Roland C. Reny, a major in the U.S.A.F. 17th Bomb Wing, in Korea. Enough of the antiseptic is being provided to treat the wounds, cuts and abrasions of the 300 Korean children for at least a year.

The story of the needs of the Korean orphans is typical of the misery and want of 100,000 parentless children in that unhappy land. It is to meet such needs that the American-Korean Foundation is now seeking $150,000 in Indiana as the Hoosier share of a $5,000,000 relief fund.

In a letter to the Indianapolis pharmaceutical house, Staff Sergeant Carl G. Hanson said Father Reny was organizing contributions of clothing and food for an orphanage set up near the K-9 Air Base in Korea, but that the antiseptic was "sorely needed" because military personnel could not spare enough.

For Sale:

Retiring physician's home and equipped rented office in Cape Charles, Virginia. Address P. O. Box 304, that town. (*Adv.*)

OBITUARIES

Resolutions on the Death of Dr. Watkins

The Staff of the Marshall Lodge Memorial Hospital Inc., of which Dr. Otis Lee Watkins has been an honored member, desires to place on record this tribute as an expression of respect.

WHEREAS, Dr. Otis Lee Watkins has been a much beloved physician in the science of healing in Campbell County, and

WHEREAS, our association both professional and social, has been one of mutual admiration and respect,

We the members of the Staff of Marshall Lodge Memorial Hospital wish to recognize in writing for future posterity, the high order of his physicianship while on this earth, and the fineness of his character.

It is our desire to spread a copy of these resolutions on the minutes of our Staff and that a copy be sent to his family and to the VIRGINIA MEDICAL MONTHLY.

Respectfully submitted,

G. EDWARD CALVERT, M.D., *Secretary*

Resolutions on Dr. George T. Myers.

Among those physicians who, during the greater part of the first half of the present century, gave freely of their time and medical knowledge to the upbuilding of the Norfolk County Medical Society, Dr. George T. Myers was pre-eminent.

After graduation from the Medical College of Virginia and before entering upon what proved to be a very successful career in the practice of his profession, he served internships in Norfolk and New York that provided the intimate and practical knowledge of the art of Medicine that was the basis of his success. In addition to a large private practice, for many years he served as City physician of Norfolk—a position which he held until 1937 when, by reason of physical disability, he was forced to retire. Since then, until his death, which occurred on July 8, 1953, he had been almost continuously confined to his home. His intense loyalty to his friends as to his profession drew to him a host of those who sorrowfully regret his passing.

THEREFORE WE RESOLVE that in the death of Dr. Myers the Norfolk County Medical Society has sustained the loss of a valued and honored member,

Also, WE RESOLVE that this memorial shall be incorporated in records of this Society.

And we FURTHER RESOLVE that a copy be sent to Dr. Myers' family and one to the VIRGINIA MEDICAL MONTHLY.

GEORGE SCHENCK, M.D.
W. P. MCDOWELL, M.D.
N. G. WILSON, M.D.

Dr. L. Leroy Jones,

Well known eye, ear, nose and throat specialist of Portsmouth, died May 29, after a brief illness. He was sixty-one years of age and a graduate in medicine from the University of Pennsylvania in 1917 and later took postgraduate courses there. He served in the Navy during World War I after which he located in Portsmouth. He was prominent in Masonic circles and was identified with numerous local, state and national societies. He was also a surgeon in his specialties for several railroads. His wife, two daughters and a large family connection survive him.

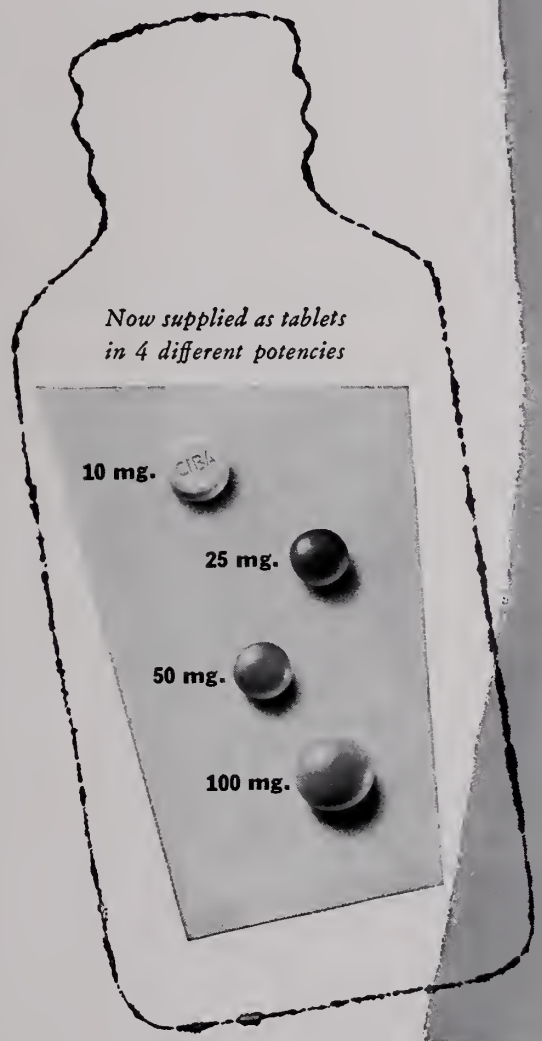
Dr. Elmer Lee Henderson,

Former president of the American Medical Association, died July 30 at his home in Louisville, Kentucky, at the age of 68. He had been confined to his bed for sometime. He had practiced in Kentucky for more than forty years. Dr. Henderson was also the first president of the World Medical Association and was active in the A.M.A. campaign against a national compulsory health program.

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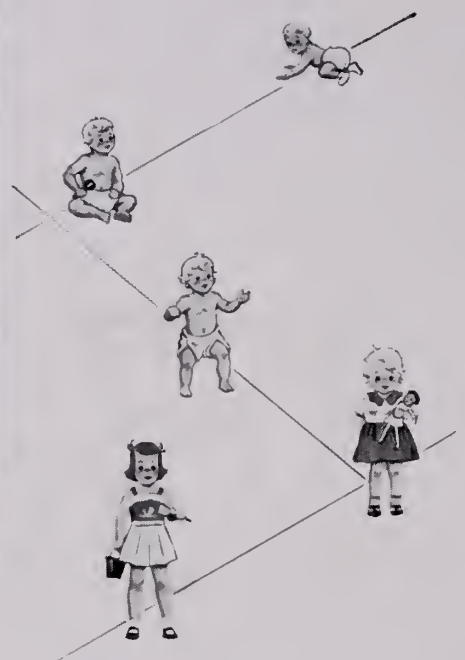
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[CONTRIBUTION FROM THE RESEARCH LABORATORIES OF PARKE, DAVIS AND CO.]

THE ACTIVE PRINCIPLES OF THE POSTERIOR LOBE OF THE PITUITARY GLAND.[1] I. THE DEMONSTRATION OF THE PRESENCE OF TWO ACTIVE PRINCIPLES. II. THE SEPARATION OF THE TWO PRINCIPLES AND THEIR CONCENTRATION IN THE FORM OF POTENT SOLID PREPARATIONS

BY OLIVER KAMM, T. B. ALDRICH, I. W. GROTE, L. W. ROWE AND E. P. BUGBEE

RECEIVED DECEMBER 31, 1927 PUBLISHED FEBRUARY 4, 1928

Introduction

The manifold physiological activities of extracts of the posterior lobe of the pituitary gland are now well known; namely, their effect

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GUEST EDITORIAL

The Arteriosclerotic Abdominal Aortic Aneurysm

UNTIL recently, abdominal aortic aneurysms were considered a rarity[1], usually due to syphilis[2], characterized by a poor prognosis without therapy, and in many instances the prognosis worsened with surgical intervention.

In the year of 1953, some of the above thoughts have changed for several reasons. Firstly, effective antiluetic therapy combined with enlightened public health measures have reduced markedly the number of patients suffering from syphilitic aneurysms of the abdominal aorta. Secondly, the increasing number of the population in the sixth to eighth decades and possibly an increasing incidence of arteriosclerosis associated with a more advanced degree of the disease than observed earlier in this century have led to an actual increase in the number of patients developing arteriosclerotic aneurysms of the abdominal aorta. Thirdly, and probably the most important of all, is the fact that following the development of a therapeutic method effective in controlling a disease, afflicted patients begin to turn up at every corner. Although it would be unduly optimistic to imply that safe curative techniques are now available for the control of arteriosclerotic aneurysm of the abdominal aorta, there are at present several surgical approaches which are either genuinely palliative or actually curative. The major problem at present is that the techniques with low risk are only palliative, and the curative methods are associated with mortality rates not entirely insignificant.

The arteriosclerotic process leads to an elongation, dilatation and tortuosity of the abdominal aorta. The most advanced intimal changes are seen in its terminal 10 to 12 centimeters at times with ulceration and calcification of the intima. When aneurysmal dilatation has occurred, there is angulation of the aorta with protrusion anteriorly and to the left and sometimes an associated buckling of the left common iliac artery. Rarely does pressure develop against the vertebral bodies. The aneurysm is usually fusiform in contour but occasionally well developed saccular aneurysms are encountered. The most frequent and usually first symptom (and sign) is a progessively evident abdominal pulsation noted by the patient and by his physician. The second most common symptom is rupture usually followed by death in hours or, at the most, days. Low back pain and mild abdominal pain are occasionally noted.

The most important question raised by the patient is how long will be the period between discovery of the aneurysm and its rupture? One recorded case lived 18 years. I have observed rather helplessly a patient die within three weeks of the initial discovery of the aneurysm. However, a fair estimate is that the patient lives in reasonable comfort and fairly good health for 12-18 months following the original diagnosis. Tragically, no finding on physical examination nor any laboratory tool will delineate between the aneurysm which will hold for several years and the one which will burst in a few days.

Since the disease has such a poor ultimate prognosis and since there is little effective therapy after the onset of rupture, surgical intervention following recognition is usually the path of choice. At present there are a variety of techniques available, the most important one being resection of the aneurysm followed by restoration of arotic-iliac

continuity by means of homologous aortic graft. The development of satisfactory methods of storage of arterial segments and evidence of their relative safety when used in man has made possible a frontal attack on the abdominal aortic aneurysm. Murray, Freeman, Bahnson, Cooley and DeBakey have, along with others in Canada and the United States, contributed to this curative approach. The operative risk is not small and the ultimate fate of the grafts unknown. Nevertheless, the hospital mortality is far less than that of the disease's natural course. Gross, who pioneered homologous aortic grafts for coarctation of the aorta, has found them to stand up satisfactorily for at least five years in replacing segments of thoracic aorta.

A second operative method of less magnitude but still of some therapeutic value is the application of a sclerosing agent to the adventitial layers of the aneurysm. Polythene film impregnated with sodium dicetyl phosphate has controlled the progress of many abdominal arteriosclerotic aneurysms but has not, to my knowledge, cured a single one. The use of a suspension of sodium dicetyl phosphate has recently been studied[3] and a number of favorable early results noted, such as relief of pain and cessation of its growth. Again, probably in no case will the fibrotic encasement eradicate the aneurysm.

There are other methods of controlling the arteriosclerotic aneurysm of the abdominal aorta such as 1) ligature of the aorta proximal to the aneurysm and distal to the renal arteries—rarely successful either for life or survival of limbs; 2) packing with wire sufficient to cause an increase in the intrasaccular thrombus but not to cause sudden complete thrombosis—a method with some advocates but with many failures and complications in the hands of other surgeons; 3) proximal aortic partial occlusion with slingshot rubber band favored by Blakemore—tricky because of an extremely narrow margin of safety between too little and too much occlusion.

In summary, the arteriosclerotic aneurysm of the abdominal aorta is being encountered relatively more frequently, is a highly lethal disease usually within two years of discovery, best treated at present by either the most radical method of resection with graft or by the most conservative method of application of a sclerosing agent to its wall. The therapeutic approaches available between the two extremes appear to have less favorable features for general application.

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THE DIAGNOSIS AND TREATMENT OF POST-TRAUMATIC CEREBROSPINAL FLUID RHINORRHOEA— A REPORT OF FOUR CASES*

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Introduction:

This report presents descriptions of four patients with this lesion whom we have seen and treated at the Medical College of Virginia Hospitals in the last five years. Three were white patients, one was colored. All four cases were adult males and they all had *post-traumatic* cerebrospinal fluid rhinorrhoea; two of the four cases developed this lesion after head injury or operative intervention on the nasal sinuses; the remaining two were caused by gunshot wounds of the head, the bullet traversing or penetrating the anterior fossa on one or both sides in each case; one of these two latter patients also had a post-traumatic pneumocephalus in which the ventricles were clearly outlined on the skull films, as in a ventriculogram. These four cases will be briefly described together with comment on the definition of the lesion, the symptoms, signs, diagnosis and complications of this always dangerous condition, and the surgical treatment of choice employed by us for its permanent correction.

Definition:

Post-traumatic cerebrospinal fluid rhinorrhoea is defined as a leak of cerebrospinal fluid from one or both sides of the nose following head trauma (or operative interference upon the paranasal sinuses) and is thus distinguished from the *spontaneous* variety occurring, it is now thought, from congenital defects in the cribriform plate and dura through which the arachnoid herniates and ruptures, often during coughing, sneezing or straining, without other trauma of any kind. Three such patients with *spontaneous* leaks (rhinorrhoea) were successfully operated upon by the late Dr. C. C. Coleman in an eighteen-month period (1943-44) at the Medical College of Virginia Hospital with elimination, permanently, of the leak in every case by implanting muscle *intradurally* after first gently avulsing the olfactory nerve and bulb on the side of the rhinorrhoea, through a unilateral transfrontal craniotomy. These cases were reported by Drs. Coleman and Troland[1] in 1947. Oddly enough, all three of those patients were middle-aged white females, ranging from 40 to 50 years of age. CSF rhinorrhoea has also been reported, rarely, as due to a post-traumatic dural defect in the *middle* or *posterior fossa,* the fluid reaching the nose by way of the Eustachian tube. Four such cases of rhinorrhoea were reported by Ecker[2], one of which followed removal of a cystic cerebello-pontine angle tumor. Ecker emphasizes that, to avoid misdirected exploration of the *anterior* fossa of the skull, it is important to recognize these rare cases in which CSF issues from the nose and in which the dural defect lies in the *middle* or *posterior,* and not the anterior, fossa. There are a number of reports in the literature in which cerebrospinal fluid rhinorrhoea occurred incident to a large pituitary tumor which had eroded the floor of the sella (roof of the sphenoid sinus). Shea[3], and Som and Kramer[4] have reported such cases ending fatally due to meningitis. The senior author of this paper, several years ago, operated on a middle-aged white woman with a CSF rhinorrhoea incident to a chromophobe pituitary tumor. After evacuation of the partly cystic pituitary lesion, the floor of the sella turcica was firmly packed with muscle which was allowed to remain *in situ.* The rhinorrhoea promptly stopped permanently. Occasionally, nasal "polyps" are removed, following which CSF rhinorrhoea develops, suggesting that the "polyps" were probably intransal meningoceles.

Signs, Symptoms, Diagnosis and Complications of CSF Rhinorrhoea

A leak of clear fluid from the nose does not always mean a cerebrospinal fluid fistula. The "fluid" may

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be merely nasal mucus but the application of Gurdjian's handkerchief test usually solves the problem. He states that mucus from the nose when drying on a handkerchief stiffens the fabric, whereas CSF does not do so. Often the leak is not voluminous and may be easily overlooked by the patient, the nurse, or the physician. Another method of demonstrating its presence in doubtful cases is to have the patient lean forward in a sitting position, during which the jugular veins are both compressed simultaneously by the examiner; this manoeuver usually sharply accelerates the rate of flow of CSF from the nose. Indigo-carmine in the lumbar subarachnoid space can be seen coming from one or both nostrils 30 to 45 minutes later by the rhinologist, although even ordinary spinal puncture in these post-traumatic cases is somewhat risky from the standpoint of meningitis that might follow such a procedure. The fluid from the nose may be collected in a test tube and analyzed for cell count, protein and sugar content, thus proving that it is spinal fluid and not mucus. Also, inspection of the upper nares by the rhinologist usually yields the desired localizing information in the spontaneous type of case. X-ray examination of the skull in the post-traumatic cases of CSF rhinorrhoea usually shows a fracture line or multiple fracture lines in the area of the frontal sinuses, ethmoids, cribriform plate or the sphenoid sinus. Often the so-called Water's P-A X-ray view of the frontal-ethmoid-zygomatic area yields the most information. Most post-traumatic CSF rhinorrhoeas—and the lesion is seen not rarely in any busy neurosurgical clinic dealing with considerable numbers of head trauma cases of all types—heal spontaneously in a few days and nothing further is required; such is almost invariably the case with CSF *otorrhoea.* It is only the *persistent* types, that continue to drain spinal fluid from the nose after two weeks or more following trauma, that require operative repair of the leak. A rather severe headache often accompanies the leak of fluid, probably for the same reason that the occasional spinal puncture is followed by post-puncture headache. Gurdjian and Webster[5], in commenting on cerebrospinal fluid rhinorrhoea, state that the post-traumatic form may be seen during the acute stage of the head injury, or as a late complication. They believe that if the fluid is found by the rhinologist to be coming from the roof of the nose, the cranio-nasal fistula is probably by way of the cribriform plate; if the fluid seems to escape from below the middle turbinate, the fistula is probably through the frontal sinus. In one of the cases reported by Cairns[6] in 1937, the leakage of CSF through the nose took place on the side *opposite* that of the fracture in the anterior fossa of the skull. Therefore, on the basis of the above variations, it is evident that each case must be diagnosed on its own merits as an individual diagnostic problem.

Occasionally, the CSF rhinorrhoea is accompanied by intracranial aerocele. It is of interst that the first case of this type demonstrated roentgenologically was presented as a pathological curiosity by Luckett[7] and was reported in 1913: clearly demonstrated was the ventricular system in the skull films made in a patient with a basilar head injury; this publication antedated by five years the report of the deliberate introduction of air into the cerebral ventricles by Dandy, thus demonstrating—even to-day—the best way to localize operable brain tumors. The presence of air in the cranial cavity is, of itself, no basis for great concern (according to Gurdjian and Webster) except that following *trauma,* it is due to the existence of a communication between the intracranial subarachnoid or (and) ventricular spaces and the outside air. Considered in this light, it is a dangerous sign, because of the always-present risk of meningitis in such a situation. The air may be in the ventricles (as in our case #4), in the subdural space, or even in the intercerebral hemispheric space alongside the falx, reported in a case of CSF otorrhoea. Tarlov and Mule[8] published (1946) a report of post-traumatic pneumocephalus associated with cerebrospinal fluid *otorrhoea* which terminated fatally. Post-traumatic pneumocephalus without CSF leak through the nose or ear usually is absorbed spontaneously, as can be shown by a series of skull films taken every few days after the pneumocephalus is first discovered. There is, of course, always a danger of meningitis developing in these cases of CSF rhinorrhoea with or without pneumocephalus, much more so than with *otorrhoea,* in our experience. The sudden development of high fever, increase of headache, together with the finding of a spastic neck and stupor usually lead to the inevitable demonstration of cloudy spinal fluid by lumbar puncture, a development which, before the days of sulfa drugs and antibiotics, almost always heralded the rapidly-developing lethal exodus of the patient. Occasionally, the pneumocephalus will not be seen on the *initial films* made at the time of trauma, but will be demonstrated for

the first time a week or more later after the patient has coughed or strained considerably. Such an example is our case #4 (*infra*), due to a bullet wound of the anterior fossa and right cerebral hemisphere, chiefly. It was only in the later films—12 days after trauma—that the ventricles were first found filled with air and obviously a post-traumatic pneumocephalus had developed. This patient was the most difficult one of the four cases, herein reported, to treat as he was first seen by us rather late after trauma when a certain amount of basilar infection and subarachnoid hemorrhage had been present for 10 days, associated with CSF rhinorrhoea, a spastic neck, temperature elevation, and a late development of post-traumatic ventricular pneumocephalus. Certainly the early and aggressive use of sulfa drugs, and the antibiotics as well, was fully as important in salvaging this patient as the surgery that was performed ultimately. Loyal Davis[9] states, in commenting on pneumocephalus, that sneezing, coughing, straining, or swallowing is necessary to force air through the bony, dural and arachnoidal defect into the cranial chamber. Air may fill a frontal or parietal lobe of the brain without involving the ventricles at all; it may be confined, on the other hand, to the *subarachnoid* spaces. Davis states that the cavity of air in the frontal or other lobes always communicates with the frontal or ethmoid sinus by an opening which may be so minute as to be easily overlooked. The presence of air in the intracranial chamber somewhat complicates the treatment of the CSF rhinorrhoea, but the air is usually permanently obliterated at the same time as the rhinorrhoea by the operative procedure about to be described.

Surgical and Other Treatment

The essential factor and principle to be followed in the operative repair of cases of post-traumatic CSF rhinorrhoea is the same as in the *spontaneous* type, i.e. firm application of muscle intradurally to the opening or fistula between the subarachnoid space and the bony defect in the basi-frontal region or cribriform plate. In previous years, a wide variety of procedures—operative and non-operative—were reported in the literature, the great number of different methods testifying to the fact that none of them were consistently as effective as the modern intradural implantation of muscle in the fistula, rather than gel-foam which is too absorbable. The only difference in repairing the post-traumatic and the spontaneous CSF rhinorrhoea case is that in the latter it is necessary to avulse gently the olfactory nerve and bulb from its groove on the side of the leak and then to implant muscle firmly in its place. For many years, as suggested by Adson and Uihlein[10] at the Mayo Clinic, bilateral frontal *extradural* operations were carried out in rhinorrhoea cases with sacrifice of both olfactory nerves and often ligation of the superior longitudinal sinus. All *extradural* procedures in this area are open to the criticism that the dura over the cribriform plate is very thin, adherent and friable and extremely liable to be torn when stripped from the bone extradurally. All four post-traumatic cases herein reported were permanently relieved of their CSF rhinorrhoea (as were the three cases of *spontaneous* CSF rhinorrhoea in our clinic referred to above and previously reported)—one with associated ventricular pneumocephalus—by a simple *intradural* unilateral occlusion of the post-traumatic fistulae with muscle, via transfrontal craniotomy.

A successful outcome in the treatment of CSF rhinorrhoea associated with pneumocephalus has recently been reported by Pfeil and Schear[11]. A posterior nasal pack was inserted for ten days and this alone successfully stopped the leak of fluid from the nose and the pneumocephalus, involving the ventricles and the subdural and subarachnoid spaces as well, disappeared. Sixteen months later, the patient was in good health. In another patient, an unexplained disappearance of the leak for many months followed the introduction of 2 cc. of dye (indigocarmine) in the lumbar subarachnoid space, used as a diagnostic test, but the leak again appeared spontaneously twenty months later (Kahn[12], 1951). Silver nitrate applied to the fistula intranasally has been tried with some success in other clinics, but this method has now been largely abandoned. If the CSF leak does not stop spontaneously in approximately two weeks after trauma by placing the patient in the semi-Fowler position, restriction of fluids, the constant daily administration of sulfadiazine, terramycin and penicillin, until six or seven days after the leak stops, operative intervention is usually indicated. Likewise, in those patients with associated pneumocephalus, if subsequent skull films show an *increase* in the amount of air together with a continuation of the CSF leak, operation is urgently indicated and the procedure of choice is—at present—*intradural* occlusion of the fistula—almost always

in the basi-frontal-ethmoid-cribriform area—with muscle firmly packed in the bony defect. This method is followed more consistently by success in permanently closing the fistula and obliteration of the CSF leak and pneumocephalus (if present), than any other procedure that has been utilized in our clinic.

FOUR CASE REPORTS OF POST-TRAUMATIC CEREBRO-SPINAL FLUID RHINORRHOEA

The first two cases to be reported followed (*Case I*) a long series of frontal sinus operations in the course of which it is presumed an opening was made inadvertently in the posterior plate of the frontal sinus, the dura and the arachnoid, and the second case (*Case II*) followed a fracture of the anterior fossa of the skull 6 years before repair of the CSF leak was accomplished surgically; this was carried out several months after a severe attack of meningitis.

CASE I: F. M., white male, aged 38, was admitted to the Medical College of Virginia Hospital on the 14th February, 1948. His chief complaint on admission was increasingly severe convulsive seizures. He had had twenty-four separate operative procedures in his right frontal region during the previous nine years before admission to the neurosurgical service, involving, for the most part, the removal of sequestra and other sequelae of an initial right-sided purulent fronto-ethmoiditis (Fig. 1). Six years before admission, generalized convulsive seizures began, presumably due to scarring of the right frontal lobe and they were becoming more and more frequent. The bony decompression (incident to the numerous operations in the right frontal region) would protrude for a day or two after the seizure. For six years before admission he had had several episodes of rhinorrhoea from the right nostril followed by acute fulminating meningitis responding promptly on each occasion to sulfa drugs and penicillin. Undoubtedly before the introduction of these drugs the patient would have died in one of these very severe attacks of basilar meningitis. The last such infection had been two months before admission. The primary reason for admitting him to the hospital was for surgical repair and closure of the presumed cerebrospinal fluid fistula between the basi-frontal subarachnoid space in the right frontal region and the fronto-ethmoid sinuses. Sulfadiazine and penicillin therapy was begun forty-eight hours before operation. Except for poor vision in the right eye, he had no other complaints. Examination disclosed several scars in the right frontal and supraorbital regions. There was a bony defect about 7 x 3 cms. in the right frontal bone with deformity of the supraorbital ridge (Fig. 2). The skin was retracted and concave over this area except when the patient leaned forward at which time it protruded outward. There was no papilledema in either fundus and neurologically he was otherwise entirely normal.



Fig. 1. *Case I.* Appearance of patient before repair of cerebrospinal fluid leak from right nostril; 24 operative procedures in right frontal region for sinus infection before leak of fluid repaired.



Fig. 2. *Case I.* P-A skull and facial film to show defect in right frontal bone (arrows) incident to many previous operations for sinus infection. The communicating fistula in this case was in the region of the cribriform plate.

On the 18th of February, 1948, in collaboration with Dr. George Thrift, of the Otolaryngology Department, the cerebrospinal fluid leak was attacked through the old right frontal defect (JMM). Endotracheal ether anesthesia was utilized. The approach was through the scarred scalp area immediately above the remnants of the right frontal sinus. Normal brain tissue in the right frontal lobe was not seen at any time a ter the scalp was opened; the dura was non-existent under the skull defect. The posterior plate of the right frontal sinus was exposed after devitalized brain tissue from the right frontal lobe was aspirated with the suction apparatus. In the region of the cribriform plate to the right of the midline could be seen fluid leaking down into, and air from the ethmoids bubbling upward in a stoma several millimeters in diameter. No probe or curette was introduced for fear of making the opening larger and its occlusion more difficult surgically. The fistula intradurally was covered with several stamps of muscle which had previously been obtained from the left thigh. A strip of fascia lata was placed over the muscle, the entire area was covered temporarily with cotton and aspirated completely dry with the suction apparatus, after which no air or cerebrospinal fluid was seen in the opening; a water-tight closure of the fistula seemed to result from this procedure. Closure of the scalp was made with interrupted silk sutures without drainage. No remnant of dura could be found due to the many operations that had occurred previous to the intradural operative attack on the fistula itself.

Recovery was uneventful; the patient left the hospital on the ninth post-operative day. There had been no leak of CSF since the operation and his temperature had been normal for at least a week before discharge from the hospital. Phenobarbital was administered in moderate doses post-operatively. A recent letter from the patient in answer to our inquiry (March 12th, 1953), slightly more than five years after operation, stated that he had had an occasional convulsion and still requires penicillin at intervals presumably for residual sinus infection. He made no mention of any further attacks of meningitis. He has been working practically all the time since operation. He describes a "discharge" occasionally from his nose, which is probably mucus from the residual sinus infection. The patient has not been seen by us since operation, so it is not known for certain whether he is taking phenobarbital or other anti-convulsant drugs regularly at this time.

Case II: W. B., colored male, aged 36, was first admitted to St. Philip's Hospital (M.C.V.) on the Medical Service on September 18th, 1951, with a diagnosis of pneumococcic meningitis. He had a history at that time of a CSF leak of fluid from the right nostril at intervals for the previous six years following a head injury, at which time he was struck across the forehead with a tree limb. He particularly noticed the fluid draining from his nose when he leaned forward; it would occasionally drain for 2 - 3 days and then stop spontaneously. A neurosurgical consultation on October 6th, 1951, after the pneumococcic meningitis was under control, recommended surgical repair of the fistula at a somewhat later date as soon as he had convalesced entirely from the meningitis. A spinal puncture at the time of admission (September 18th) yielded an initial pressure of 410 mm. of water, cloudy fluid, 4,060 WBC per cu. mm., 92% of which were polys. Two days later (September 20th) the fluid was again described as cloudy at the time of the second lumbar puncture (10,985 WBC's). Culture of the first spinal fluid obtained was reported as showing, twenty-four hours later, diplococcus pneumoniae. The patient responded rapidly to treatment with aqueous penicillin intramuscularly and terramycin intravenously and was discharged twenty days after admission (October 8th) with a normal temperature for the previous six days, all antibiotics having been discontinued for several days before discharge. Skull films, including special paranasal sinus films, made during this hospital period revealed old fracture lines in the basi-frontal region on the right side (Fig. 3).

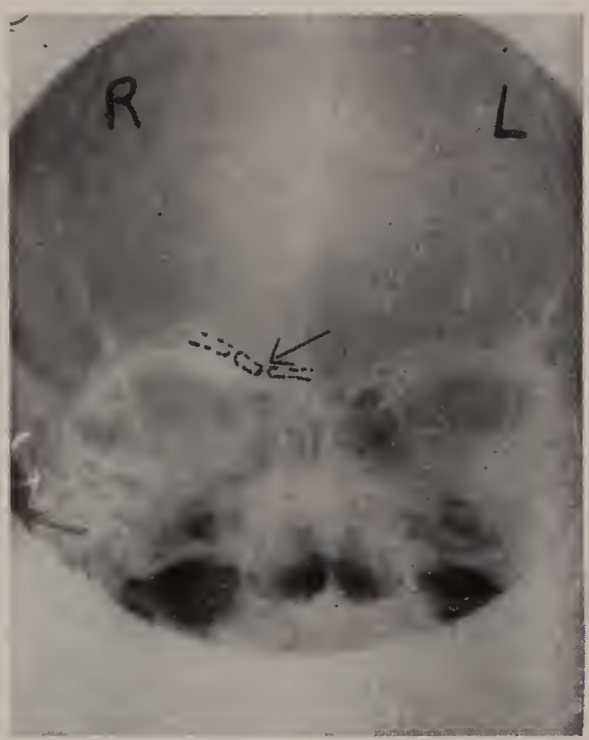


Fig. 3. *Case II.* Re-touched P-A skull film showing (arrow) multiple fracture lines in the right inferior fronto-ethmoid region, the site of the fistula repaired at operation.

The patient was re-admitted on December 2nd, 1951. for operative attack on the presumed post-traumatic fistula connecting the basi-frontal-ethmoid sinus area on the right side with the supra-adjacent subarachnoid space. It was learned at that time that two and a half weeks after the head trauma had been sustained (six years previously), cerebrospinal fluid had begun to leak from the right nostril and had continued rather constantly ever since, there never having been a period of more than three consecutive days when there was freedom from CSF rhinorrhoea. His temperature, pulse and respiration at the time of the last admission were normal and his general

condition was excellent, approximately two months after recovery from the pneumococcic meningitis with the aid of antibiotics. On 4th December, 1951, a right frontal osteoplastic flap was turned down (J.K.) and an intradural occlusion of the connecting fistula carried out with the aid of a muscle implant. The crista galli was indentified intradurally, and in the area of the olfactory bulb the first cranial nerve, which appeared to be composed largely of degenerated nerve fibers, was gently avulsed and a large muscle implant inserted firmly in the olfactory groove and cribriform plate area and firmly stamped down by strong suction over cotton and downward pressure by the operator's finger for a minute or two. It is of interest that in spite of a degenerated-appearing first cranial nerve on the right side, the sense of smell (to peppermint) was present in the right nostril before operation. The dura in the frontal region behind the frontal sinus showed an inflammatory reaction, probably attributable to the recent meningitis. The dura was tightly closed without drainage and the bone flap replaced. The patient's temperature was elevated to 102°-103° on several occasions in the first six post-operative days but fell thereafter abruptly and remained normal until discharge on the twelfth post-operative day. At that time, the patient was in excellent condition and the area of operation in the right frontal region was completely healed. In the succeding fifteen months that have elapsed since operation to the date of this report he has remained well with little or no headache and there has been no leak of fluid from the nose. In two post-operative visits to the out-patient clinic, he has been asymptomatic and has remained so. On March 11th, 1953, the patient wrote in answer to our inquiry that there was no leak of fluid from his nose since the operation: "I am working and getting along fine."

Cases III and IV are, on the other hand, both due to *gunshot wounds, Case IV* being further complicated by pneumocephalus involving the ventricles, meningitis, bilateral choked disks and subarachnoid hemorrhage, received in the hospital as a *delayed* case.

CASE III: A. H., white male, aged 41, was admitted to the Medical College of Virginia Hospital on the 8th of January, 1952, in a critical condition immediately after a gunshot wound of the frontal portion of the head involving both cerebral hemispheres by a .32 caliber pistol bullet. It has never been definitely determined whether the bullet wound was self-inflicted of homicidal. The wound of entrance was in the right inferolateral frontal area of the head. From this point, the bullet (as shown by X-ray films made at the time of admission) travelled, in a transverse trajectory across the right frontal lobe, crossed the midline either through or below the falx cerebri to lodge in the left frontal lobe just beneath the dura, above and to the left of the orbital rim of the left orbit (Fig. 4). He had not been definitely rendered unconscious by the injury, had walked away from the scene of its infliction and was talking and cooperative at



Fig. 4. *Case III.* P-A skull film at time of first admission. The wound of entrance is on the right; the direction of the bullet was from right to left; the bullet (.32 caliber) is seen lying superficially in left frontal region. Note multiple fracture lines involving sinuses.

the time of admission, several hours afterward, although his responses to questions were obviously not reliable. The X-ray films of the skull, in addition to showing the course of the bullet already referred to, also showed multiple fracture lines in the frontal sinus-ethmoid area, bilaterally. Although he could see with each eye when admitted several hours after the injury, within one and a half hours after admission to the hospital, marked amblyopia had developed in the right eye. It was thought that the course of the bullet had been very close, probably just superior, to both optic nerves.

The patient was operated upon (JMM) on the day of admission, primarily (1) to debride the wound of entrance in the right frontal area and thus to prevent a fatal cerebritis, and (2) to remove the bullet if it could be quickly found beneath the intact skull in the inferior left frontal area. These procedures were carried out without great difficulty or loss of blood, the patient being under intravenous pentothal and endotracheal gas-oxygen-ether anesthesia. Pulpified brain was oozing from beneath the torn dura when the wound of entrance in the right frontal area was debrided. The bony injury had penetrated the right frontal sinus (Fig. 5) and gelfoam was placed in this structure. Bleeding from the cerebral cortex and

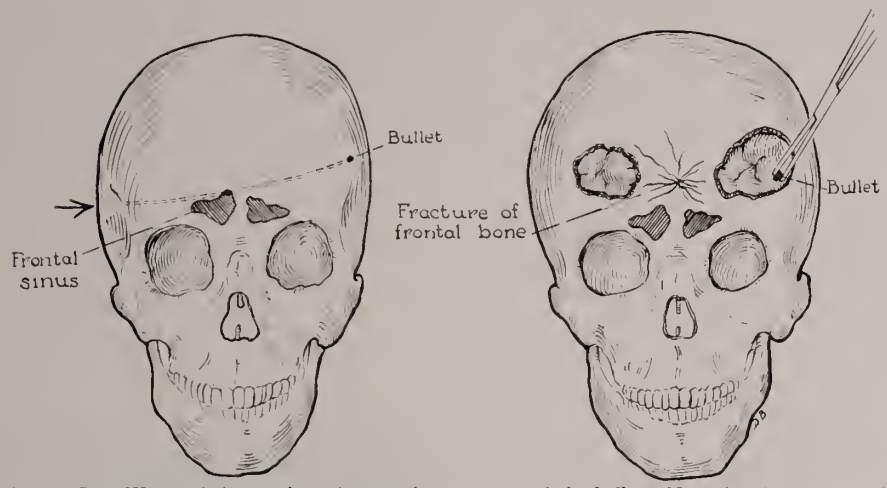


Fig. 5. *Case III.* Artist's drawing of approximate course of the bullet. Note that it traversed the frontal sinus on right side, thus accounting for the cerebrospinal fluid rhinorrhoea repaired at later date by intradural muscle implant. View on right shows extraction of the bullet in left frontal region through a separate craniectomy.

subjacent white matter of the right frontal lobe was controlled with the electro-surgical cautery and warm saline irrigations. No drainage was employed in either wound. The bullet was located in the left lateral-inferior frontal area by measuring its location on the skull films and then on the patient's shaved scalp. By means of a small craniectomy in that area the bullet was readily found subdurally and removed by forceps. The dura was widely opened because of cerebral edema and gelfoam placed over the brain. The scalp was tightly closed in layers without drainage. The next day the patient could count fingers with each eye and intraorbital pressure was not excessive. Nine days later (January 17th) a secondary closure of the left frontal wound was carried out as the marked edema of the left frontal lobe had caused a separation of the scalp wound. Under endotracheal ether anesthesia the old incision was re-opened and additional brain tissue aspirated away and several cc. of a weak penicillin solution (5000 u/cc.) were instilled in the cerebral wound. The galea was approximated with interrupted sutures of catgut and the skin with silk. No drainage was employed. The wound healed satisfactorily and caused no further difficulty. After a rather stormy convalescence, the patient was discharged approximately six weeks after the initial injury, his discharge from the hospital being delayed by a not unexpected "frontal-lobe syndrome" characterized for several weeks by marked restlessness, fabrication, euphoria, urinary incontinence and poor cooperation.

He continued to have a "moist" right nostril from the date of discharge (February 23rd) after the two original operations until re-admission (May 18th) for the insertion of two tantalum plates in the two frontal bony defects (Fig. 6) and a muscle implant in the opening in the posterior plate of the right frontal sinus which had resulted from the original bullet wound, which in turn had been followed by a rhinorrhoea on the right side. On the right side, the frontal lobe remnant was elevated (May 20th) and a 2 mm. fistula found extending through the posterior wall of the right frontal sinus. Muscle was inserted tightly intradurally in this opening, the scalp



Fig. 6. *Case III.* Post-operative P-A view of skull showing two small separate craniectomies, the one on the right the debrided wound of entrance, that on the left, the site of the bullet removal. These bony defects were repaired later by small tantalum plates (see text).

closed without drainage and he has not leaked fluid from the nose since then, ten months after the repair of the CSF fistula. He remains in excellent condition at this time, as reported to us by letter (March 14th, 1953) and also has been free of headaches and other ill effects since his last operation: "My eyesight has fully recovered. I am starting a new business next month."

CASE IV: Dr. L. R., aged 48, a white male physician was admitted to the Medical College of Virginia Hospital on April 19th, 1952, in a critical condition following a self-inflicted gunshot wound of the head involving both cerebral hemispheres ten days previously at his home in another state (.45 caliber pistol bullet fired through a rifle into the roof of his mouth). He was not rendered unconscious by the bullet and was found standing after the shot in his examining room by an entering patient. The bullet was lodged in the left parietal area as seen readily on the X-ray films and the wound of entrance was in the hard palate just to the right of the midline. Skull films sent with the patient to the hospital made on the day of injury showed only these findings (Fig. 7). At the time of



Fig. 7. *Case IV.* Forty-five caliber pistol bullet lodged in parietal region just to left of midline, as seen in lateral skull film made immediately after injury. The bullet entered the intracranial cavity through the mouth and the right basi-frontal region, ricochetting eventually into the left parietal area.

admission, he was conscious and fairly rational although childish and very poorly oriented as to time and place. There was a leak of spinal fluid from the right nostril. He had been placed on antibiotics at home immediately after the injury but had complained of increasingly severe headache in the right frontotemporal region. Four days after the injury a spinal puncture—done elsewhere—showed an initial pressure of 540 m. water and 1,000,000 RBC per cu. mm. indicative of a high degree of increased intracranial pressure and rather marked subarachnoid hemorrhage. Papilledema developed not unexpectedly with these complications and when seen by us, ten days after the bullet wound was inflicted, he had 2-3 D. elevation of each optic disk. He was ambulatory but not very cooperative. Temperature was 101.6 rectally. Vision seemed good in each eye. The visual fields were grossly normal by confrontation test. There was mild hypertonicity in the right leg, the bullet being in the left parietal lobe near the vertex of the head. It was assumed that the bullet had entered the right basifrontal area of the intracranial cavity through the roof of the mouth, traversed the right frontal lobe obliquely from before backward, penetrated the falx and had come to lodge just beneath the dura, probably, slightly to the left of the midline in the parietal area. Because of the persistence of the headache, skull films were repeated (April 21st, twelve days after injury) and a perfect image of the ventricular system was seen, i.e., air had undoubtedly entered from the frontal sinus-ethmoid area on the right side, traversed the severely traumatized right frontal lobe and entered the anterior horn of the right lateral ventricle, during coughing or straining, to produce a typical ventriculogram. (Fig. 8).



Fig. 8. *Case IV.* Right lateral skull film made twelve days after injury showing perfect image of lateral ventricles (spontaneous ventriculogram) and separate rather large extra-ventricular air pockets in the right frontal lobe.

In summary, then, here was a severely lacerated right frontal lobe, a .45 pistol bullet in the left parietal lobe, a CSF fistula with rhinorrhoea in the right basi-frontal area, which included a direct connection with the ventricular system (aerocele), severe subarachnoid hemorrhage, a high degree of increased intracranial pressure with choked disks bilaterally, and undoubtedly a considerable degree of basilar meningitis and right cerebral cerebritis, first seen by us *ten days* after trauma. A considerable problem in surgical judgment presented itself as to the best procedure to undertake in surgically attacking these lesions and *when* to do so. As the patient had considerable fever on admission, and was not drowsy or stuporous, it was decided to ignore the bullet (rarely the major acute problem in bullet wounds of the head compared to retained bone fragments in the brain when the bullet is lodged at the end of a long trajectory in the brain), and to treat the patient vigorously with antibiotics for a few days, at least, in an effort to eliminate the meningitis but to operate as soon as possible due to the ventricular-subarachnoid-fronto-ethmoid fistula and CSF rhinorrhoea associated with bilateral choked disks. This plan was followed and nine days later (19 days after injury), the TPR then being entirely normal, a large right frontal bone flap was outlined and turned down (April 28th). A left frontal burr opening had been

made just previously and the anterior horn of the left frontal lobe tapped to be certain that there was no left-sided subdural hematoma or intracerebral abscess. The left anterior horn was tapped and 60 cc. of clear ventricular fluid obtained thus eliminating any mass lesion in this area. The right-sided frontal bone flap was then turned down (JMM) and discarded as the brain was quite full and very over-vascularized (? cerebritis) in spite of the left anterior horn having been tapped twice immediately before craniotomy. A ventricular needle in the right frontal lobe was followed by a "puff" of air several cm. from the surface; the frontal pole of that hemisphere was then elevated and muscle stamps were placed over the fractured site in the right cribriform plate (Fig. 9). The scalp was tightly closed without drainage and the patient has remained well since, except for his mental status. On May 10th, 1952, (12 days after operation) skull films showed no air in the ventricles (Fig. 10). When seen in the office slightly more than 6 months after operation (November 4th, 1952), his general condition was excellent, the optic disks were normal, and no CSF leak had occurred from the nose since operation. He was ambulatory and had gained at least fifteen pounds in weight. He is still confined to a mental institution at the time of this report, approximately eleven months after the wound was sustained.

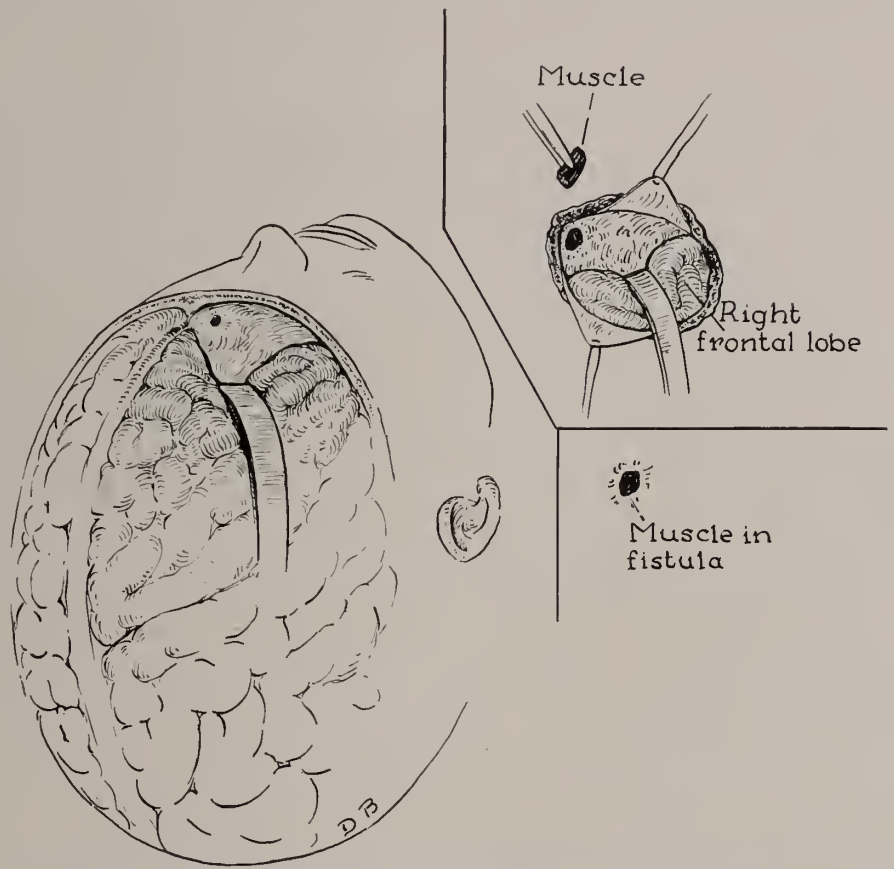


Fig. 9. *Case IV.* Artist's drawing showing muscle stamp being placed in fistulous tract in right cribriform plate, after its exposure under retracted and elevated right frontal lobe. This is essentially the method employed in all four cases herein reported.

Summary

(1) Post-traumatic CSF rhinorrhoea with or with-



Fig. 10. *Case IV.* Lateral skull film made twelve days after repair of CSF leak through right nostril and tapping of lateral ventricle and both frontal lobes with release of entrapped air. Note (1) absence of bone flap due to cerebritis and edema, and particularly (2) absence of ventricular or frontal lobe air (compare with Fig. 8.) The bullet is still *in situ*, adjoining the longitudinal sinus. The patient remains in excellent condition thirteen months after injury and operation.

out complicating pneumocephalus is discussed with particular reference to the recognition of the condition and the satisfactory non-operative and operative management of this serious lesion.

(2) Four illustrative cases (two of them due to gunshot wounds) from our clinic are presented—all operated upon by a uniform intradural method and occlusion of the fistula by muscle with successful outcome in each instance, to date.

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PR TIP OF THE MONTH—The patient who drives 'round the block for twenty minutes before she can find a parking place near the doctor's office—or who receives a parking ticket because the doctor was late in seeing her often complains loudly about doctors. Consequently, many physicians and medical societies are making *special parking arrangements* for the convenience of such persons. It makes good public relations sense.

UNUSUAL COMPLICATIONS IN DIABETES MELLITUS— CASE REPORT

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There have been several reports in the literature concerning cystitis emphysematosa and necrotizing renal papillitis occurring in diabetics; and many articles on cortical necrosis due to a variety of causes, but to our knowledge this is the first report of all three conditions occurring in the same patient.

Case Report

Mrs. B. D. W. (123059), a 57 year old white housewife and a known diabetic of 6 years, was admitted on November 3, 1951, with a chief complaint of pain in the left flank, side and lower abdomen of 24 hours duration. The pain had come on suddenly, was persistent, sharp, and localized. There was associated nausea, but no vomiting, diarrhea, nor melena. She stated that she had been passing gross blood in her urine for twenty-four hours and had more burning, and frequency, up to ten times at night, than usual, having had these latter symptoms since 1946.

Her past medical history was significant in that she was known to have had diabetes mellitus for 6 years, which had proved difficult to control even with insulin and a rigid diet. She had lobular pneumonia in 1942 without sequelae, and malaria as a child. In February, 1946, she had a right nephrectomy for a staghorn calculus. In September, 1946, she had a vaginal hysterectomy and perineal repair because of prolapse of the uterus.

Laboratory studies in September, 1946, showed: Cath. urine: sp.gr. 1.014, reaction acid, albumin trace, sugar 4-plus; microscopic: numerous wbc, and numerous rbc per h.p.f. A urine culture at this time grew out E. coli. Blood sugar ranged from 305-130 mgm. %. Blood urea was 52 mgm. %. A KUB did not reveal any suspicious shadows.

The review of systems and family history were non-contributory.

Physical examination on the present admission revealed a pale, stout, elderly, white female with drawn facies, complaining of severe pain. Her temperature, pulse, and respirations were 102 F., 120, 22, respectively. Her blood pressure was 118/78. The tongue was dry, and there was an acetone odor to her breath. Fine moist rales were heard over both lung fields. The cardiac rate was increased and a systolic murmur was present. Moderate tenderness with spasm was present over the left costovertebral angle and left lower abdominal quadrant.

Laboratory data was as follows: Urine: sp. gr. 1.014, acid reaction, 4 plus albumin, 3 plus sugar, and numerous rbc/hpf. No acetone nor diacetic acid was present. Urine culture grew out E. coli. The blood count was normal. Her blood sugar was 302 mgm. %, and blood urea 68 mgm. % on admission.

The patient's diabetes was treated by a strict diabetic diet, parenteral fluids and 60 U NPH insulin supplemented with regular insulin. She was also given antibiotics, analgesics, digitoxin, and oxygen. Her prognosis was poor. Urinary output was diminished. On November 5, 1951, cystoscopy was performed to find if the solitary left kidney was blocked. A small amount of urine was obtained. The bladder mucosa was intensely red throughout. The lateral walls and trigone were profusely studded with crepitant air blebs beneath the mucosa. The ureteral orifices could not be located. The patient tolerated the procedure well. She was given vigorous supportive treatment the next four days, but she continued to go downhill, became comatose, and expired on November 9, 1951.

At autopsy (Dr. M. B. Beecroft, Pathologist) massive cortical necrosis and necrotizing renal papillitis of the left kidney were found. The microscopic picture of these lesions has been well described by Edmondson, Martin, Evans and Robbins, Mallory and Kinney, and others, and will not be repeated here. Glomerulosclerosis was not observed. There were air blebs in the submucosa of the bladder. A totally unexpected finding was a ruptured dissecting aneurysm of the left common iliac artery with massive retroperitoneal hemorrhage, the immediate cause of death.

DISCUSSION

There has been much speculation as to the etiology of cystitis emphysematosa. The possible causative factors have been divided into four classes: (1) Anærobic gas-forming bacteria, which produce a generalized virulent infection, may cause an associated cystitis emphysematosa. (2) Cystitis emphysematosa may develop as a result of invasion of the mucosa and submucosa of the bladder by a gas-forming bacillus which also produces a hemorrhagic cystitis. (3) An abacterial cystitis emphysematosa is found in diabetics with a hyperglycemia of 200 mgm. % or more; the gas is supposedly formed by enzymic action in the mucosa and submucosa of the bladder. (4) These cases of cystitis emphysematosa that result from abrasions (catheters, cystoscopes, or other instrumentations), in which the air or gas-producing bacteria are introduced under the epithelium. It is interesting to note that in our case there is a possibility that three of the above etiological factors may have played a role: Our patient's blood sugar level was over 300 mgm. %; a colon bacillus was cultured from the urine; and there was a chance of the introduction of air or gas-producing bacteria during catheterizations or cystoscopy.

The finding of necrotizing renal papillitis at autopsy was a not unexpected observation. This is a severe, usually fatal, type of acute pyelonephritis, distinguished by necrosis of the renal papillae, which occurs in middle-aged diabetic patients, and also in cases of severe urinary tract infection with obstruction but without diabetes. The criteria for the clinical diagnosis of N.R.P. in diabetic patients has been given as fever, hematuria, renal colic, unexplained coma, and sudden increase in severity of symptoms of known pyelonephritis—all of which were found in this case. Slipyan and Barland present a stimulating discussion of possible etiological and anatomical basis for this lesion. Pyelographic studies were not done but might have demonstrated the irregular filling defects of the renal calices due to necrosis, and sloughing of the tips of the papillae. Early diagnosis is essential in order to interrupt the process of infection before it progresses to the stage of necrosis.

Cortical necrosis has been associated with a wide variety of conditions. Most authors agree that necrosis of the renal cortices is ischemic in origin whether it be due to intense vaso-constriction, vaso-paralysis, thrombosis or necrosis of the arteries by-passed.

The work of Homer Smith, Trueta, Goodwin, Sloan, and Scott on this problem has been basic. The latter investigators confirm the work of Trueta, and conclude that there is a neurovascular control of the renal blood flow and that renal and/or splanchnic nerve stimulation may permit the juxta-medullary glomeruli to carry the blood through the kidneys, by-passing the cortical glomeruli which become ischemic. Goodwin, Cason, and Scott state that their experiments would seem to show that "the triad of shock, splanchnic nerve stimulation, and hemoglobinemia will produce the lesion clinically and pathologically, whereas anyone of the three taken separately or in pairs will not". Trueta also found that any intense injury or insult to the iliac vessels can set up a neurovascular reflex that may result in cortical necrosis of the kidneys.

The clinical application of this neurovascular reflex has been well demonstrated in cases of transurethral resections of the prostate, rough handling of the ureters, following cystoscopy, over-whelming abdominal surgery, shock, crush injuries, vascular injuries, etc. In our case, in addition to the cystoscopic examination as a possible contributory factor, the autopsy revealed the presence of dissecting aneurysm of the left common iliac artery.

SUMMARY

A case of diabetes mellitus with cystitis emphysematosa diagnosed ante-mortem is presented, which, in spite of intensive therapy, succumbed rapidly. At necropsy a necrotizing renal papillitis, cortical necrosis of the kidney, and a dissecting aneurysm of the left common iliac artery with massive retroperitoneal hemorrhage were found. These findings again demonstrate the need to be alert for unusual complications in individuals with diabetes mellitus and urinary tract infection, and the value of postmortem examinations in diabetics even though the cause of death may appear to be obvious.

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Home Care Advantageous Over Hospitalization in Some Cases.

Home care for the chronically ill and for children with chronic active rheumatic fever has many advantages over hospitalization, two articles in a recent J.A.M.A. disclosed.

A 30-month study of 45 children with rheumatic fever showed that "when certain initial criteria for home suitability are met, most children with active rheumatic fever and free of congestive heart failure can be cared for as well at home as in the hospital, with an equally good end-result and with greater over-all advantage to the patient and his family." The study was made by Drs. Dennison Young, White Plains, N.Y., and Manuel Rodstein, New York City, who are associated with the division of social medicine and the medical division of Montefiore Hospital.

Dr. Louis Udell, Philadelphia, described a 39-month study of 160 chronically ill persons who were treated at home. Results indicated that "those who display readiness to cooperate in intensive care show improvement physically, emotionally or socially in situations formerly believed static or hopeless." . . . "Many patients who do poorly in the hospital do much better in their home surroundings, eating the food that suits their palate, seeing their friends at anytime, and being with their loved ones."

The cost of the care of the patient at home is much less than the cost of caring for the patient in the hospital, Dr. Udell stated. In addition, home care will help to alleviate the shortage of hospital beds.

CLINICAL ASPECTS OF BARBITURATE INTOXICATION

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The problems of barbiturate addiction and suicide attempts with barbiturates are encountered with increasing frequency. The extent of the addiction problem was forcefully brought to the attention of one of the authors during a year that he was attached to the staff of the U. S. Public Health Service Hospital at Lexington, Kentucky. Though a hospital for narcotic addicts, many of the patients admitted there also had either active barbiturate habits or had used barbiturate drugs extensively in the past. Approximately one out of twenty addicts to narcotics are started on the road to addiction by medication prescribed by a physician. However, a much larger percentage of barbiturate addicts are given their start by injudicious prescription of these drugs. As little as a half gram of a barbiturate daily may be an addicting dose, though of course this varies depending on individual tolerance. Practically every new patient we see is taking barbiturates to some extent.

The frequency of suicide attempt by barbiturates is increasing by leaps and bounds each year, although the over-all suicide rate has declined. Barbiturates are used more often than any other poison in attempting suicide, as any physician with experience in the emergency room of a general hospital will recognize.

We feel that it is the responsibility of all physicians and those working in allied professional fields to recognize the dangers of barbiturates and the results of making these drugs available to patients without adequate restriction. We see two definite types of risks—suicide and addiction.

In chronic barbiturate intoxication, as seen in addiction, there are symptoms of depression of the cortex. These include drowsiness, confusion, inability to concentrate, and impairment of judgment. In addition the barbiturate addict presents signs of dysfunction of the cerebellum with ataxia, nystagmus, slurred speech, tremors, adiadokokinesis, and choreiform movements. It is obvious that many of these signs and symptoms are similar to those seen in chronic alcoholics.

Barbiturate addicts are subject to injuries due to falling, they may be involved in automobile accidents while under the influence of these drugs, often smoke in bed and cause fires, and may even commit criminal acts. These addicts tend to become disturbed in their inter-personal relations and even to become social outcasts as far as their families, old friends, and employers or fellow employees are concerned. Barbiturates are often prescribed to help emotional disturbances and yet when used excessively and unwisely by the patient, they may provoke severe depressions, emotional lability, infantile behavior, aggressive acts and paranoid ideation.

Upon withdrawal from any active barbiturate habit, a patient rapidly develops fatigue, anxiety or apprehension, fasciculation and coarse tremors of the hands and face, especially peri-oral. Later the patient will suffer abdominal cramps, nausea and vomiting, weight loss, and rather severe insomnia. The pulse, temperature, and blood pressure are all elevated. Some 2½ days after withdrawal the patient is apt to have one or more grand mal convulsive seizures and some 3 to 7 days after withdrawal a psychosis may develop. Characteristically this barbiturate withdrawal psychosis resembles the delirium seen in alcoholic psychosis; however, it is related to the withdrawal of barbiturates and is relieved by the administration of barbiturates, whereas this is not true in the case of alcoholic psychosis. Most psychoses following the withdrawal of barbiturates will clear in less than two weeks but some may go on for a longer time, even for two or three months, and in that event they often resemble more nearly a schizophrenic reaction.

Acute barbiturate intoxication as seen in accidental over-dosage or suicide attempts is characterized by unconsciousness with slow, shallow respirations and cyanosis. The history obtained from reliable informants aids in the diagnosis. The laboratory can help us also in diagnosing cases of barbiturate coma.

The State Toxicology Laboratory can analyze gastric contents or specimens of blood or urine and give us a report within 30 to 45 minutes during the day and 1 to 1½ hours during the night.

In this paper we will review our experiences with acute and chronic barbiturate intoxication at the Medical College of Virginia Hospital Psychiatric Service during the year 1952. This includes (with exceptions noted later) only patients admitted to the Psychiatric Service, though many more were seen in the emergency rooms and handled through admission to another hospital or referral to the out-patient clinic. Some who were seen in the emergency rooms were taken home against medical advice by relatives who did not appreciate the severity of the problem.

Of a total of 747 in-patients treated by the Psychiatric Service during 1952, 32 patients had barbiturate drugs as a distinct part of their problem. This represents a rate of 4.3%.

Of these 32 patients, 19 were admitted to Psychiatry actively addicted to barbiturates or had used them in addicting quantities previously; 13 patients were admitted for barbiturate over-dosage in attempted suicide. It is of note that 4 doctors and 1 nurse were among the 32 patients.

Of the 19 patients admitted for addiction, 5 either had on admision or subsequently developed, during their hospital stay, withdrawal psychoses. One of these patients had a history of withdrawal psychosis which had cleared prior to admission. Ten patients had barbiturate withdrawal convulsive seizures after admission or prior to admission. Four patients of this group had both barbiturate withdrawal convulsive seizures and psychotic episodes. There were no deaths among this group. Our treatment for these addicts included stabilization on an adequate dosage sufficient to produce mild intoxication and then gradual withdrawal from barbiturates usually proceeding at the rate of reduction of 1½ grains every one to two days. These patients must be watched closely from the standpoint of impending convulsive seizures and this often means side rails on the bed, proper escort to the bathroom, etc. When indicated, psychotherapy was a part of our treatment, though unfortunately many addicts are fixed at such an infantile level that this type of therapy does not have much to offer. In addition, many of these patients stayed with us during the period of reduction but not long enough for any intensive psychotherapy in a hospital setting.

The problems encountered in withdrawing a patient from barbiturates may readily by illustrated by the following case report:

One of the patients in our addict group was a 45-year old white female using barbiturates for several years following her husband's death. The patient had previously been treated in other hospitals for addiction but had never managed to stay away from drugs for any length of time. She was admitted to our Psychiatric Service actively addicted to barbiturates, the dosage being estimated by the patient and relatives as 30-33 grains of Nembutal per day. In spite of stabilization on an adequate dosage, and careful and gradual withdrawal, she subsequently developed a barbiturate withdrawal psychosis four days after admission—with confusion, disorientation, delusions, and auditory and visual hallucinations. She was maintained on optimum barbiturate dosage during her psychotic period and in addition received ACTH. Her psychotic episode cleared after three days, or about the seventh hospital day, and her course thereafter was uneventful. Completion of her withdrawal was accomplished at our hospital and a convalescent nursing home to which she was transferred for financial reasons. Unfortunately, as is the case with so many addicts, she returned to our hospital a few months later with another roaring habit and was then committed to the state hospital for treatment.

As will be recalled, of our 32 patients admitted with a definite problem in regard to barbiturates, 13 of these patients were admitted for barbiturate intoxication after a suicide attempt. Of these 13 patients, ten were diagnosed re-active depressions, two involutional depressions, and one undiagnosed. The majority of these patients received the usual treatment with picrotoxin or other drugs in the emergency room. One patient of this group was revived with the aid of the Reiter Electro Stimulator, and we will speak more of this machine later in this paper.

Some patients, of course, take so few capsules that heroic measures in the emergency room, etc., are not necessary. However, our experiences indicate that even patients who take a few capsules may have made a full-fledged suicide attempt, and that their use of an obviously innocuous dose cannot be dismissed as a suicidal gesture. It is a policy at our hospital that Psychiatry sees every case of barbiturate intoxication. One patient who took only a

few capsules of one of the barbiturates was signed out of the emergency room by a responsible party only to jump off a bridge the same day. One other patient took a few barbiturate capsules and also turned on the gas, indicating her definite intention to do away with herself. A third patient, in addition to taking barbiturates, had inflicted severe lacerations, emphasizing her real intent. Of course, lay people are not schooled in the lethal dose of barbiturates and may take a few capsules, thinking that this will be sufficient. It certainly behooves us to do our utmost not to provide great amounts of barbiturates for patients with self-destructive tendencies.

At the Medical College of Virginia Hospital we have a Reiter Electro Stimulator available for the treatment of patients with acute barbiturate intoxication. Of our group of 13 patients admitted to Psychiatry during 1952 for a suicide attempt with barbiturates, only one received Reiter treatment. We also gave this type of treatment to one of the patients in the addict group admitted in an unconscious condition, though it could never be determined definitely whether this represented actual over-dosage in a suicidal attempt. Two other patients not admitted to the Psychiatric Service received Reiter Electro Stimulation during 1952 at our hospital for barbiturate over-dosage, in the emergency room.

One of these was fully aroused from her barbiturate coma with Reiter treatment but died three days later of the toxic effects of another poison she had taken in conjunction with the barbiturates. The second patient not admitted to our service but receiving Reiter treatment for barbiturate over-dosage was a Negro nurse who had taken an allegedly massive over-dosage of barbiturates and could not be roused adequately with other chemical means. When Reiter Stimulation was begun patient was areflexic and in shock, but after 93 minutes of continuous Reiter treatment she was roused and was talking. Two days later, while the patient was awaiting transfer to a state hospital following commitment procedures, a bottle of 100 phenobarbital tablets was found in her bed. She had appropriated these during her brief hospital stay from a locked cabinet somehow. We should also like to call attention to one patient treated during 1953 with the Reiter machine. This patient, a nurse, ingested 31½ grains of Seconal in a suicide attempt and after admission to the Psychiatric Service was areflexic and in shock. She was revived with the help of Reiter Electro Stimulation maintained almost continually for a period of twelve hours.

It seems in order at this point to mention in more detail the Reiter apparatus which we feel to be a valuable aid in the treatment of acute barbiturate intoxication, whether this is the result of suicidal attempt, accident, or over-dosage in the course of sedation of a patient. This machine provides continuous electrical stimulation over as many hours as are required to rouse the patient. By increasing the respiratory rate, it brings about a more rapid elimination of barbiturates and by an earlier awakening tends to reduce such complications as pneumonia, etc. We advocate its immediate use in all cases of profound barbiturate coma, though other measures such as gastric lavage, chemicals, and frequent shifting of the patient, should be used in addition to the Reiter treatment. We certainly think that the emergency room in any city hospital ought to be aware of what the Reiter machine can do for patients brought in unconscious from barbiturate overdosage.

In summary, we have reviewed some of the aspects of acute and chronic barbiturate intoxication in general, and have discussed patients on our Psychiatric Service in 1952 who had a definite problem with regard to barbiturates, either in the realm of addiction or over-dosage in suicide attempt. We would like to urge again that all members of the medical profession and allied fields consider the dangers involved in making barbiturate drugs easily available to patients.

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A CONCEPT OF MUCOVISCIDOSIS (CYSTIC FIBROSIS OF THE PANCREAS)*

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The clinical syndrome of mucoviscidosis, as well as various laboratory aids in diagnosis, has been well established, but the pathogenesis of this disease is still in a state of flux. Until this is established the disease cannot be well understood, and therefore, at present, remains inadequately treated. Basically there are three theories of pathogenesis which to date have not been refuted. These are, first, that it may be an infection in utero[2] or the result of a postnatal infection.[20] But, if so, the selective ability of the damaging organism is most remarkable. The second theory is that it is a genetic problem and it has rather conclusively been shown that it occurs in families in a manner consistent with a mendelian recessive trait. The frequent presence of other congenital defects in these children helps to lend support to the genetic origin.[2,3,4,20] The third theory was first expressed by Farber who believes that the disease is the result of the functional imbalance of the autonomic nervous system governing the secretion of mucus throughout the entire body with the result that the mucoprotein fraction of this mucus is abnormal. This in turn causes the characteristic disease picture seen in the several organ systems.[5,7,8]

From our study of mucoviscidosis, based on our own autopsy findings and of that recorded in the literature, we feel that the most plausible theory is that of widespread abnormal mucus production on a congenital basis, and that the disease process begins in the embryologic entodermal tube before it divides to form the respiratory and gastro-intestinal tracts. To our knowledge this concept has not heretofore been expressed. It seems reasonable that an alteration on a congenital basis of a glandular mucus enzyme system could also explain the production of abnormal mucus with its established disease pattern. The pathogenesis of the disease would then be as in Fig. 1.

This concept refutes the idea that the disease originates in the pancreas and somehow, in some mysterious manner, spreads to the other organs involved[19] and amplifies Farber's[5] theory of a systemic disorder. If then, one accepts the concept that the abnormality exists in the original entodermal tube, it is not difficult to explain how or why the disease also coexists in the several widely separated organs and with varying clinical pictures. Meconium ileus with resulting intestinal obstruction is characteristic of the disease in the early newborn period.[1] During infancy, cough, emphysema and recurrent pneumonias are statistically more prominent, but vomiting, and bulky, foul stools are also fairly frequent. The full blown picture of both lung and intestinal involvement is most typically seen in the early childhood period.[1,6,7] From autopsy reports we find that the extent of pancreatic involvement can also vary with reports of as little as 20% of the organ showing characteristic pathology.[13,20,15] The liver seems least often to be implicated.[13,14] It is fairly easy to conceive that when the two tracts form from the original entodermal tube, that any proportion of diseased glands may split off to follow either or both paths, giving us then these widely varying clinical findings and symptomatology.

At the Medical College of Virginia Hospitals five cases of mucoviscidosis have come to our attention, four of them autopsied and one diagnosed at surgery. The five case histories follow:

Case 1. Baby girl B. was a seven pound, fifteen ounce colored female infant delivered by low forceps, who vomited meconium stained material frequently from birth until operation after forty-eight hours of life. X-rays showed small bowel obstruction, and subsequent surgery revealed thick inspissated meconium in the terminal ileum, which was manually removed. No other pathology was found to account for the obstruction. The postoperative course was stormy and the child expired two days after surgery. Of interest is the fact that this child exhibited numerous other congenital anomalies. The hair on her head was kinky and snow white except for two circular patches approximately two inches in diameter in the occipital region, which were coal black in color. There was complete agenesis of the

*Read at the annual meeting of the Medical Society of Virginia in Richmond, September 28-October 1, 1952.

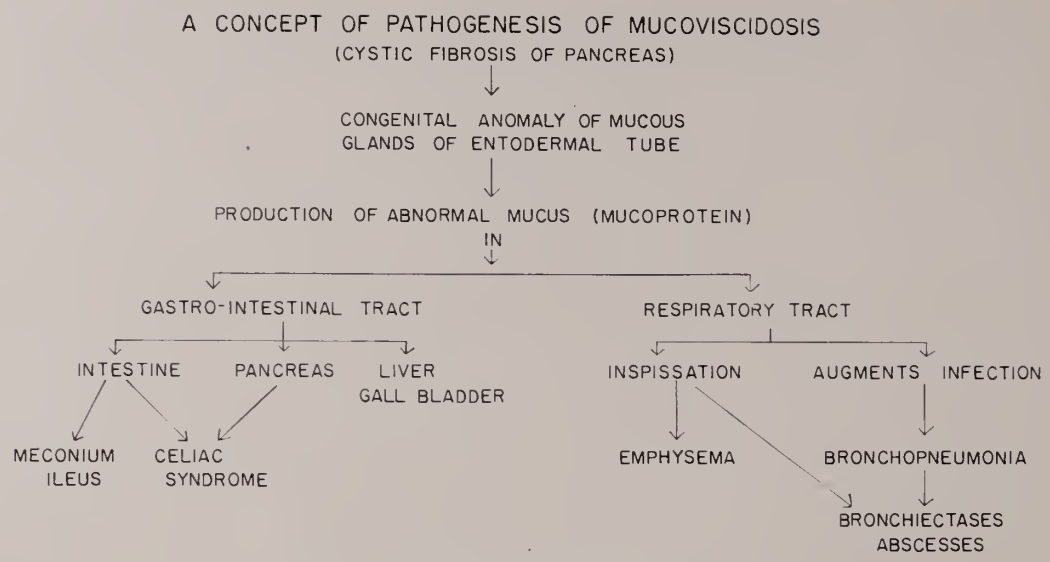


Fig. 1. Proposed pathogenesis of mucoviscidosis.

right pinna and external ear canal. Absence of pigmentation of the skin existed in a dermatome pattern over the arms, upper thorax, and lower extremities.

Case 2. M.G. was a four month old colored male, who had never done well, with frequent vomiting since birth. The last two months of his life he had many "head and chest colds" with a deep hacking cough which had become progressively worse. He was small and poorly nourished with an emphysematous chest and inspiratory and expiratory rales to auscultation. There was no response in his chest condition to all the usual forms of therapy. Toward the end of his life he developed huge, bulky stools accompanied by severe dehydration with electrolyte imbalance, and ceased, in spite of heroic treatment. At autopsy a widely patent foramen ovale was also found.

Case 3. V.M.W. who was a 2 month old white female, breast fed for the first month of life and who nursed eagerly, but was never satisfied. At one month of age her stools became frequent with a foul odor and she had been vomiting 5 days before hospital admission. She was somewhat edematous and the liver edge was palpable 3 finger breadths below the right costal margin. Autopsy revealed typical cystic and fibrotic changes in the pancreas with marked fatty changes in an enlarged liver. The lungs showed no pathology.

Case 4. F.D. was a 5 month old, white male, first admitted in a dehydrated, shock-like state at 4 months of age, because of vomiting and abnormal stools. He improved on a Mullsoy regime and was sent home only to return in two weeks with vomiting, abnormal stools, edema and with a liver edge felt at the iliac crest, expiring suddenly after 3 days. Post-mortem examination showed little, if any, involvement of the lungs. Typical cystic fibrosis of the pancreas existed. The huge liver was almost entirely replaced by fat and the bile ducts were also involved.

Case 5. M.A.R. was a seven year old white female with seven hospital admisisons during her brief life, the first because of constant hacking cough and marked weight loss at three years of age and a chest X-ray compatible with miliary tuberculosis and emphysema. When approximately four years old, large foul stools appeared with continuance of cough and rales in the chest. The chest was emphysematous and to X-ray showed extensive bilateral linear mottlings, suggesting bronchiectasis and interstitial pneumonitis. Decreased trypsin in the duodenal drainage was found at that time and the diagnosis of cystic fibrosis of the pancreas with lung involvement was established. She made a marked improvement on pancreatin granules and was supported with various antibiotics, but still returned with serious lung infections. On her last admisison she was cyanotic, dyspneic, with substernal and subcostal retraction, showed clubbing of her digits and evidence of heart failure. EKG at that time revealed right axis deviation with sinus tachycardia. There was no response to any therapy.

With reference to the pathological lesions, we do

not feel that we can add much to the already existing detailed descriptions of this ailment.[5] The pancreas can vary greatly in gross appearance from completely normal to a markedly shrunken and distorted organ. Microscopically, the pancreas shows prominent fibrosis of the interstitial tissue with dilated large ducts and smaller ductules (Fig. 2). Eosinophilic staining, viscous appearing material, which may have a concentric appearance, plug many of these ducts (Fig. 3). There is usually a lymphocytic and plasma cell response to the extravasation of this abnormal mucus. Remarkably, the islets of Langerhans are preserved, often showing hyperplasia and lying in close approximation to each other (Fig. 4). We feel

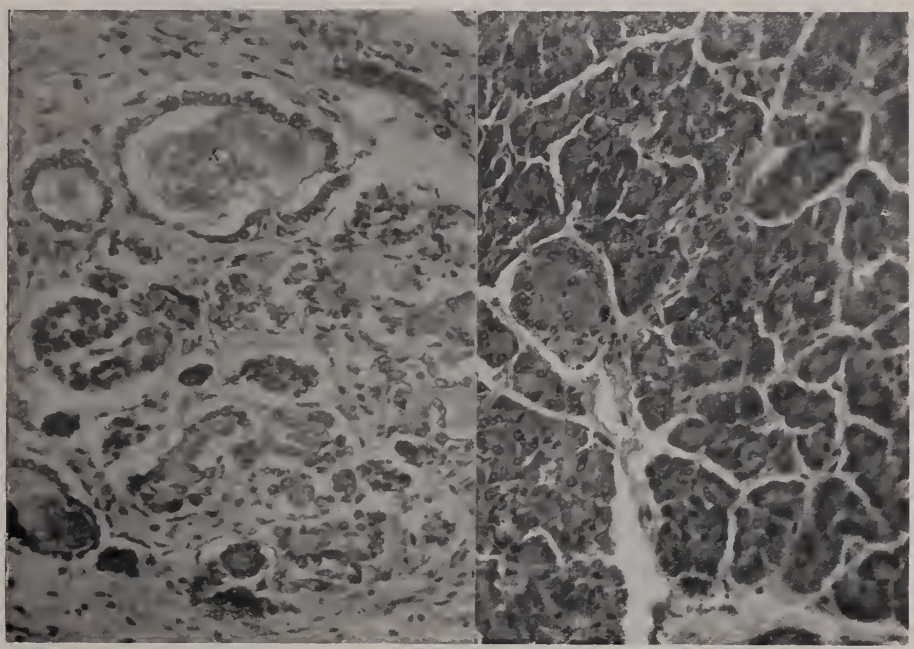


Fig. 2. (A). Pancreas with dilated ducts, atrophy of acini and interstitial fibrosis. Normal pancreas on the right for comparison.

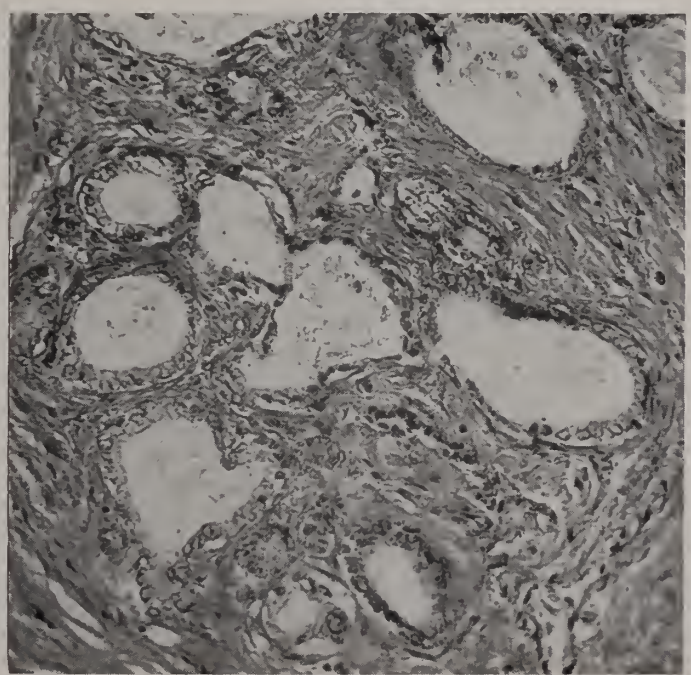


Fig. 2. (B). Cystic pancreatic ducts surrounded by thick fibrous bands.

that the interesting phenomena of the preservation of the pancreatic islets in this disease is probably best explained as being the result of obstruction of the pancreatic ducts by viscous mucus plugs. Banting and Best,[24] in their original experiments with insulin production, found that after ligation for 7 to 10 weeks of the pancreatic ducts in dogs, the ducts distal to the obstruction were dilated, the acinar tissue

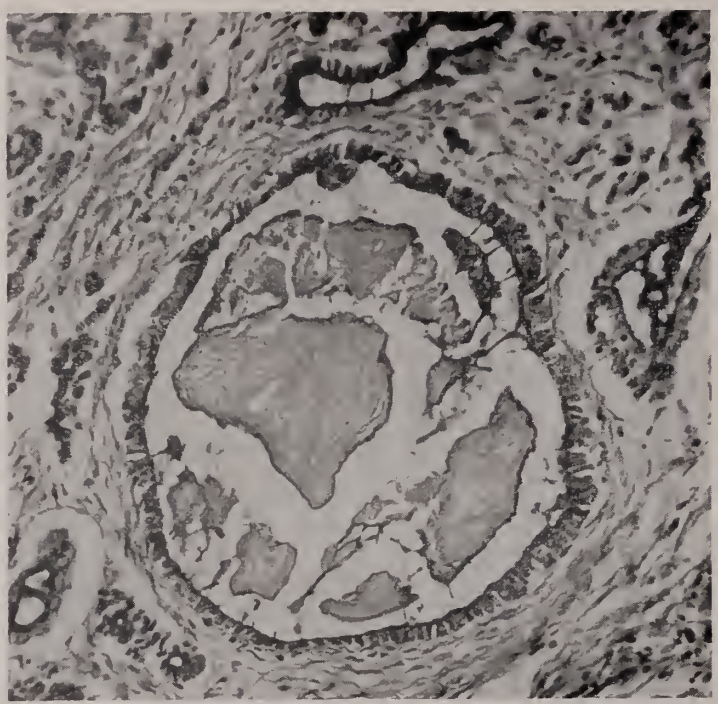


Fig. 3. Eosinophilic, inspissated concretions (mucus secretion) fill a dilated duct.

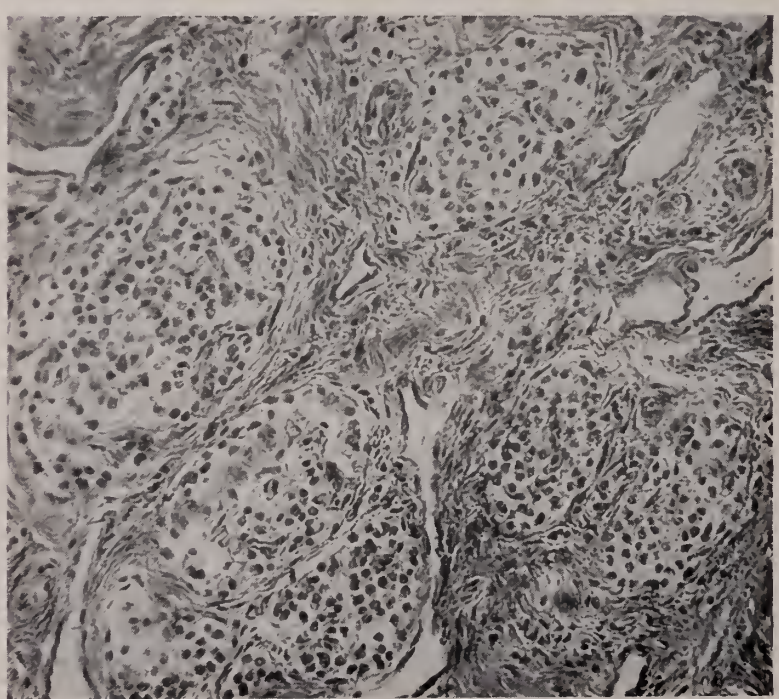


Fig. 4. Islets of Langerhans showing hyperplasia and lying in an adjacent location.

destroyed with fibrous tissue replacement, and the islets were still preserved and remarkably healthy in appearance.

Grossly, the lungs can vary in appearance from normal to that of typical bronchopneumonia and later marked bronchiectasis and abscess formation. The

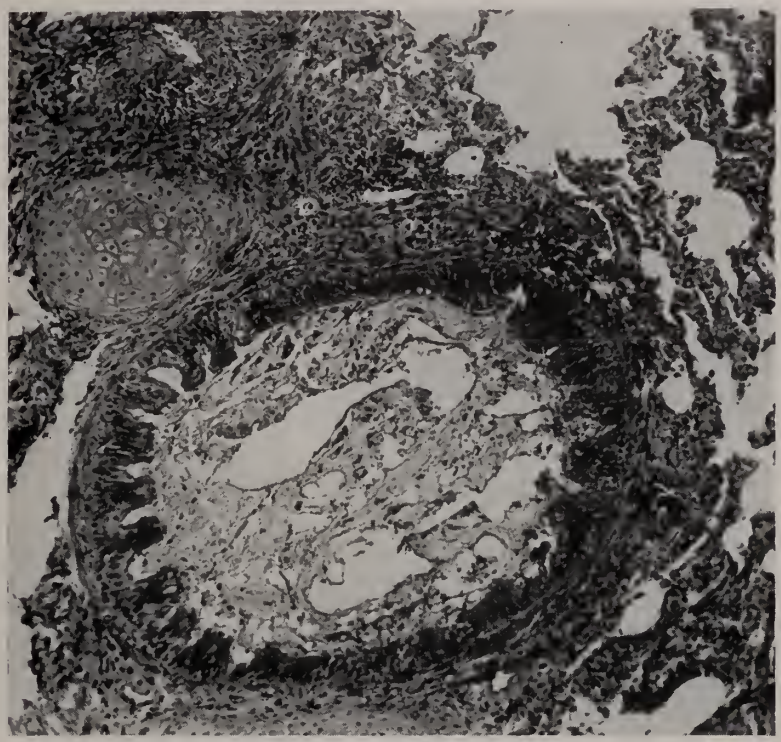


Fig. 5. Bronchus is plugged with thick mucus, reminiscent of that found in bronchial asthma.

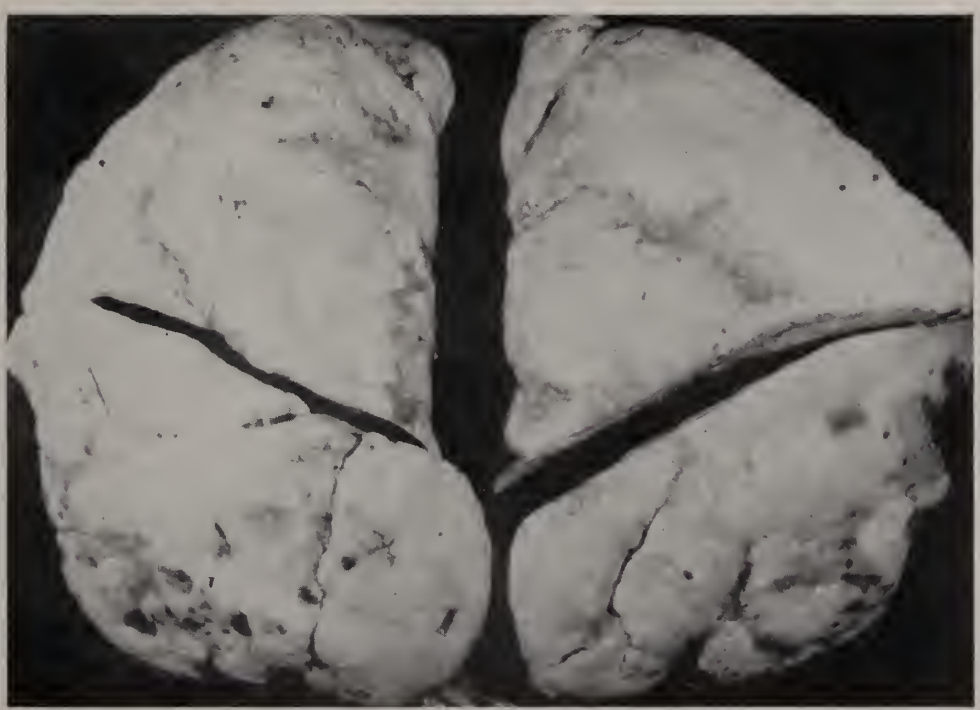


Fig. 6. (A). Lungs are pale and emphysematous with foci of dark atelectasis.

bronchioles, large and small, may be grossly plugged with mucus (Fig. 5). Microscopically, when the lung is involved, emphysema is present in nearly all areas not replaced by atelectasis, fibrosis, or a bacterial process (Fig. 6). The bronchial epithelium may be edematous and the lumen filled with tenacious mucus. Much of this mucus takes the same eosinophilic stain as already noted in the pancreatic ducts. Irritation results in increasing peri-bronchial and alveolar wall firosis. It is only a question of time unless the patient can be successfully controlled on antibiotics until superimposed infection results. Some feel that the use of the broad spectrum antibiotics may actually cause striking improvement in the general nutritional state.[23] This has not been our experience thus far. The staphylococcus organism has most often been incriminated and the increased flow of abnormal mucus no doubt plays a prominent part in augmenting the invasive characteristics of this organism.[6]



Fig. 6. (B). Diffuse fibrosis throughout lung fields.

Depending upon the degree to which fibrosis has replaced normal lung tissue will the heart itself be involved, resulting in cor pulmonale[9,11] (Fig. 7). This occurred in 17% of 42 cases reported by Nadas *et al.*[22] The thickened right heart musculature with heavy trabeculae in one of our patients with extensive lung disease, is mute testimony to this.

The liver, when involved, shows increase in size with replacement by fat of normal cell structure. The bile ductules may be dilated and filled with mucus

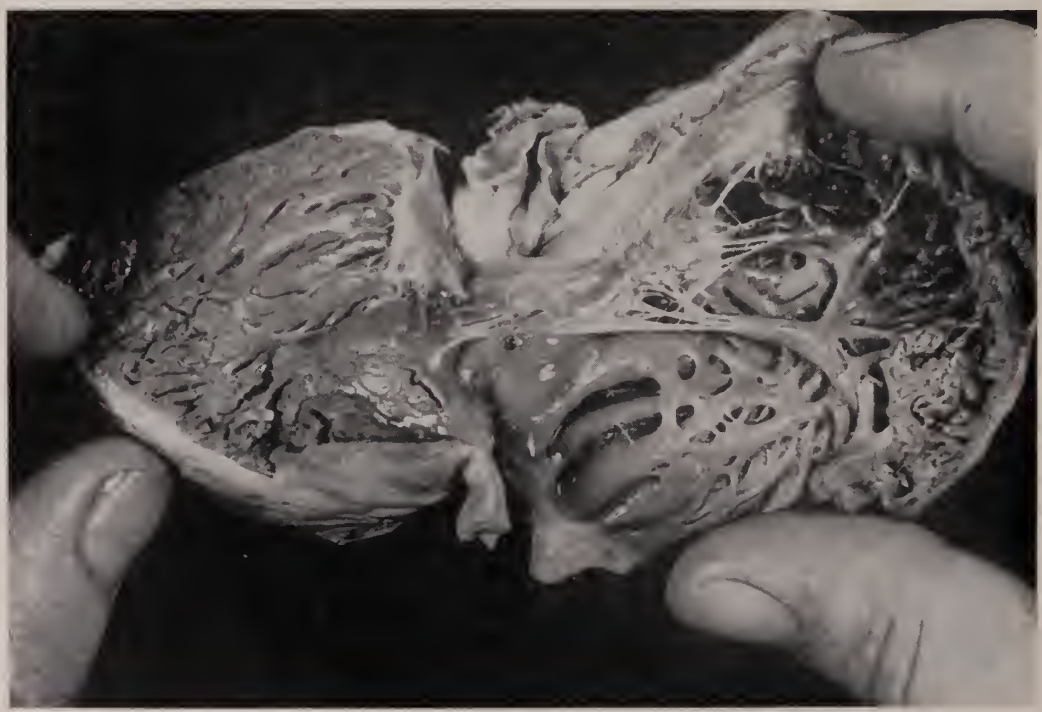


Fig. 7. Extreme dilatation and hypertrophy of the right side of the heart.

(Fig. 8). Extremely distended and hyperactive glands may be found in the mucosa of the gallbladder.

When severely involved, the mucosal surface of the intestine is plastered with mucus and, microscopically, Brunner's glands in the duodenum are found to be over-active and may produce the same eosinophilic staining type of abnormal mucus.

There is an interesting microscopic finding in one of our cases, which to our knowledge has not yet been described in the literature. In this patient the examination of a lymph node from the pancreatic region revealed macrophages laden with eosinophilic staining mucus, signifying perhaps a body so overburdened with abnormal mucus that the defense mechanisms, to get rid of harmful foreign material, were called into active play (Fig. 9).

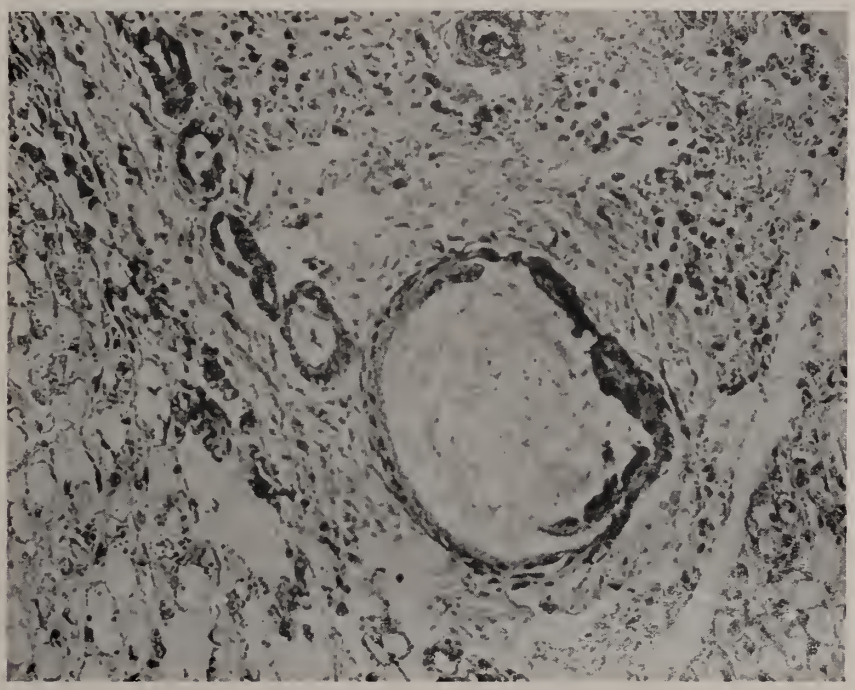


Fig. 8. Bile duct and ductules dilated and contain abundant mucus. Surrounding liver cells are engorged with fat.

If our theory of the pathogenesis of mucoviscidosis is tenable, then the prognosis of this disease should be better than has formerly been thought. Especially should this be true in those individuals whose respiratory tree has been relatively spared. The location, the number, and the extent of involvement of the mucous glands would then directly vary the prognosis. With this in mind, all of the autopsied cases of adults between 1936 and 1951 with the diagnosis of chronic pancreatitis or cystic disease of the pancreas at the Medical College of Virginia Hospitals were reviewed. All those who had any related liver, gallbladder, or gastric disease were discarded, as were those with a history of chronic alcoholism. This left a small group of adults who died of causes apparently unrelated to their pancreas with the same microscopic picture in the pancreas on hematoxylin and eosin stain, as is found in mucoviscidosis in childhood. Two case histories follow:

Case 1. R.J. was an 81 year old, white male, who had suffered with frequent bouts of pneumonia for at least half of his life span, these episodes having been suffiicently severe to require numerous clinic visits and several hospital admissions. The last admission was for cardiac failure which did not respond to attempted digitalization. At autopsy, besides the cardiac findings, the pancreas showed marked peri-acinar fibrosis and cystic dilatation of the ducts and with eosinophilic plugging in numerous areas (identical with Fig. 2B).

Case 2. R.C.G. was a 68 year old, white male, who had undergone a cholecystectomy several years previously for abdominal pain without relief. Two subsequent laparotomies were done without significant findings. (This type of history is frequently obtained in long standing cases of chronic pancreatitis.) Twenty-four hours before suffering a myo-

cardial infarction and sudden death, he had copious watery stools. Other than the cardiac pathology, autopsy revealed the typical picture of chronic pancreatitis.

Frequently the dilated duct lumina of chronic adult pancreatitis contain eosinophilic staining, often laminated, viscid appearing material which is thought to be a mucoprotein secreted from the remaining acinar cells and the epithelium of the ducts.[10] Microscopic examination shows peri-acinar fibrosis. Pancreatic stones may or may not be a feature.

After all known causes of chronic pancreatitis in adults have been ruled out, there still remains this group in which this characteristic pathology occurs and who may never have suffered any known pancreatic discomfort in life. Recent investigators remark, "Though chronic pancreatitis may become manifest by all the symptoms and signs, it is most puzzling that severe morphologic changes can occur in the organ and the patient remain symptomless."[10] These authors present sixteen such cases and describe the eosinophilic staining, inspissated concretions in the pancreatic ducts which they believe to be abnormal mucoprotein and to form the nidus upon which calcium may be precipitated to form stones. They believe that the quantity, pH, and enzyme content of pancreatic juice varies with the stimulating agent. The juice formed by vagal or pilocarpine stimulation, which is more constant in effect, is smaller in quantity and less alkaline, but is rich in enzymes. Following a meal, a free flow of highly alkaline juice, poor in enzymes, is produced which serves to flush out the ducts, carrying with it the more viscid enzyme rich material.[10] This implies that in a certain group of adults with chronic pancreatitis, excessive vagal stimulation, at the expense of the sympathetic component, may be the basic cause of the disease. These same investigators have found that the normally alkaline pancreatic juice, which is supersaturated with calcium carbonate, can be made more alkaline by excessive mucoprotein secretion, causing calcium to be precipitated, and thus stones to form.[10]

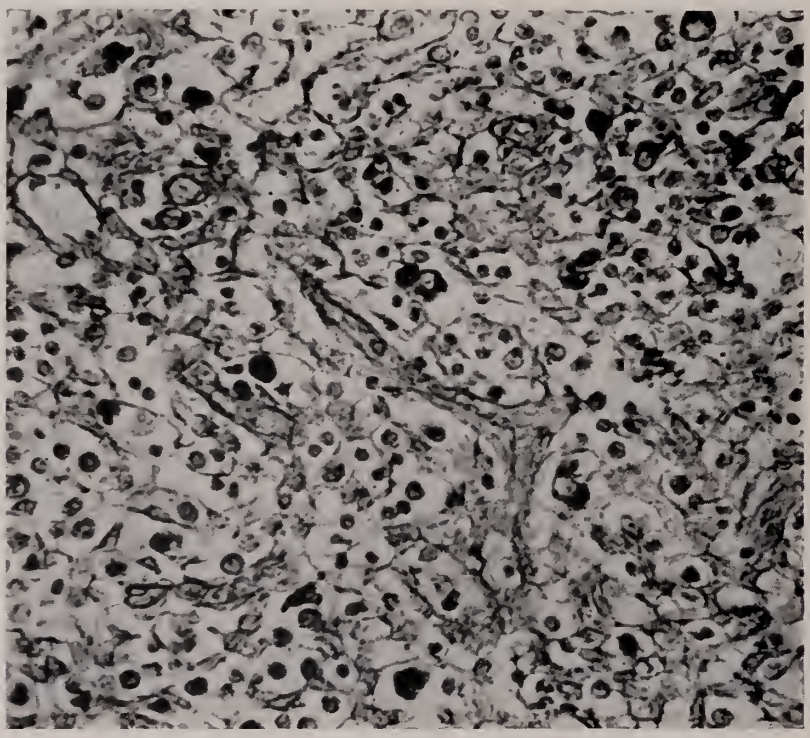


Fig. 9. Dark staining histiocytes filled with mucus. P.A.S. stain.

This, then, reveals that in a certain group of adult patients with chronic pancreatitis, with or without stone formation, the pathogenesis is strikingly similar to that of mucoviscidosis and *may* represent a subclinical form which has held over into adulthood. At least one other case of possible cystic fibrosis of the pancreas, diagnosed by autopsy, in a 34 year old Negro male is on record.[16] It is an intriguing thought that a minimal involvement of

the mucus secreting glands in the original entodermal tube may, in the last analysis, be the cause of a significant number of thus far unexplained cases of chronic pancreatitis in adulthood.

Addendum

Since the completion of this paper we have had the opportunity of studying three additional cases diagnosed pre-mortem and proven by autopsy. Two of these cases were admitted to the Medical College of Virginia and the third was diagnosed by William M. Bruch, M.D., Bluefield, Va., and was autopsied there by one of us (G.R.H.).

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INFLAMMATORY RINGWORM IN MAN DUE TO TRICHOPHYTON FAVIFORME CONTRACTED FROM CATTLE*

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Inflammatory fungous infections of the skin occurring in man and acquired from cattle have been known in Europe for many years. These infections are frequently caused by the faviform trichophyta which were first studied by Sabouraud[1] in 1893.

Recognition of such infections in this country is of more recent date. The first Canadian report in 1934 by Davidson, Gregory and Birt[2] described 28 cases, 9 of which were proven by culture to be caused by *Trichophyton faviforme*. In 1938 Gammel and Work[3] reported three cases, one of which was from the United States. Fowle and Georg[4] described 14 cases from Pennsylvania in 1947 and this was followed by Carney's[5] publication from Iowa describing 39 cases of inflammatory ringworm, 17 of which were caused by the faviform trichophyta.

The increasing number of reports of such infections indicates not only the likelihood of a greater incidence of this type of ringworm in the United States, but also a better understanding of the culture methods necessary for isolation of the faviform trichophyta. To further focus attention on the increasing incidence of this disease, we are reporting five cases of recent occurrence in Virginia. Since the methods for successful cultivation of the faviform trichophyta vary somewhat from the generally used methods for growth of the ringworm fungi, we are reporting them here in some detail.

Fungous infections of the skin due to the faviform trichophyta appear in at least three forms. In the scalp kerion formation is described, identical clinically to that caused by *Microsporum lanosum*. In the bearded region, indurated boggy areas, somewhat kerion-like occur and are confused with infections in this region due to bacteria. On the glabrous skin, the organisms may produce either inflammatory circinate tinea, with or without pustules, and agminate folliculitis. All three of these forms were encountered in our cases.

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CASE REPORTS

Case 1.—J.H.M., a 35 year old male, noticed a few pustules on the left side of the chin about April 3, 1952. Prior to this time he had been treating cattle for ringworm with a preparation supplied by a veterinarian. The disease in the animals was predominantly about the head and appeared as dry grayish scaling plaques which were accompanied by hair loss in the involved areas. Upon examination of the patient on April 10, 1952, there were noted three groups of pustules on the bearded region surrounded by an indurated elevated erythematous plaque which was fairly well defined. The pustules when opened discharged a slightly bloody purulent material. The hairs in the area were easily epilated manually. Up to this time the patient had used a salve without success. Cultures for bacteria and fungi were taken and since we were then unfamiliar with cattle ringworm in this part of the country, the patient was placed on wet compresses of boric acid, neomycin ointment locally and penicillin internally. Four days of this therapy had very little effect upon the lesions. Within the next 10 days he received two fractional doses of 75r x-ray, unfiltered, parenteral penicillin, and, because of the history of exposure to cattle ringworm, was placed on oral potassium iodide beginning with 15 drops t.i.d. On the eleventh day of treatment aureomycin was combined with the penicillin. Two days later a fungus was found to be growing on the Sabouraud media and all antibiotics were discontinued. The patient was treated for a total of six weeks with seven weekly x-ray exposures of 75r unfiltered, wet compresses of boric acid and 8% ammoniated mercury ointment. The potassium iodide was gradually increased to 30 drops t.i.d. A faviform trichophyton was recovered from the culture.

This case illustrates the ineffectiveness and even possible exaggeration of the disease by the use of antibiotics when fungi are not suspected.

Scales were obtained from the infected cattle and were found to contain *Trichophyton faviforme.*



Plate I. Kerion-type lesion of the beard region.

Case 2.—H.D., a 24 year old farmer, was seen in May, 1952, complaining of an eruption on the right side of the neck of one month's duration. He had come in daily contact with cattle but was unaware that any were diseased. There had been considerable local treatment, including wet compresses, to no avail. On examination there was an indurated area 4 x 6 cms. in diameter on the right side of the neck below the mandible. Grouped in this erythematous plaque were multiple pustules from which slightly sanguineous purulent material was expressed. Direct examination of hairs were positive for fungi. The hairs in the area were manually epilated. The patient was placed on potassium iodide internally and boric acid compresses followed by 8 per cent ammoniated mercury ointment three times daily. Over a period of six weeks he was given weekly fractional doses of 75r x-ray, unfiltered, to the involved areas and was clear at the end of this time. Cultures revealed the presence of *T. faviforme.*

Case 3.—W.S.P., a 35 year old business man was examined on August 15, 1952, complaining of an eruption on the left cheek of two weeks duration. He had been treated with wet compresses, local antibictics, ammoniated mercury ointment, and a triple sulfonamide drug internally. During the 10 day period of this treatment he had become progressively worse. There was no history of contact with cattle although he occasionally visited a farm. The lesion on the left cheek measured 4 x 5 cms. and was indurated, somewhat boggy to the touch and deep red in color. On this plaque were pustules from which a moderate amount of pus could be expressed. A direct smear was positive for fungi and *T. faviforme* was later identified from the culture. The patient was placed on potassium iodide beginning with 45 drops and increasing to 90 drops a day. Locally, wet compresses of Epsom salts with 3 per cent iodide crystals in petrolatum were applied three times daily. In addition he was given weekly treatment of 75r unfiltered x-ray, and manual epilation, and was clear at the end of four weeks.

Case 4.—F.R.M., a farmer, age 34, was seen on May 2, 1952, with an annular lesion on the left upper arm, 8 cms. in diameter, of three weeks duration. There was a history of having treated cattle for ringworm. The lesion had an erythematous edge with fine scaling. Throughout the center were multiple papules with vesicles often associated with hair follicles (agminate folliculitis). Direct examination was positive for fungi. The patient was placed on potassium iodide internally and Castellani's fluid t.i.d. externally. At the end of seven days 8% ammoniated mercury ointment was applied locally along with weekly fractional doses of x-ray for four weeks. The patient was clear at the end of six weeks. Cultures revealed *T. faviforme.*

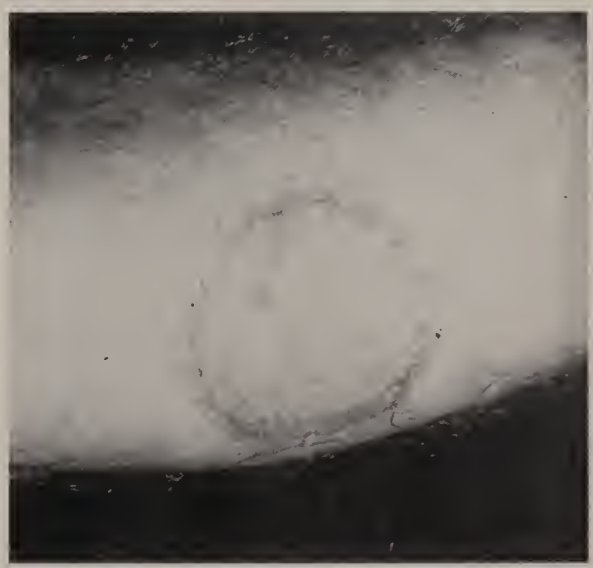


Plate II. Pustular agminate folliculitis occurring in hairy areas.

Case 5.—Mrs. F.R.M., wife of Case 4, had helped her husband treat the cattle. When seen on May 2

there were lesions on the left shoulder of three weeks duration. The lesions were very superficial, 2 cms. in diameter, with a circinate, erythematous border. The patient was given one exposure of 75r x-ray, placed on potassium iodide internally, and given Castellani's fluid for local use three times daily. While this lesion was thought to be very superficial and clearing was expected early, yet four weeks were required for cure. *T. faviforme* was recovered from the culture.



Plate III. Circinate lesions on glabrous skin with some vesiculation.

There is considerable difference of opinion in regard to the treatment of cattle ringworm in man, although the duration of treatment varies only from four to six weeks. Some authors prefer iodides internally, ammoniated mercury externally, with or without x-rays. Carney[5] stated that his patients, most of which were children, were cured with manual epilation, wet compresses and 3 per cent ammoniated mercury in about four weeks. It is certainly true that some of these infections are self-limiting in view of the beneficial effect of pustulation in helping to bring about evacuation of fungi. However, if the simple treatment as outlined by Carney seems to have little effect, as was evident in three of our cases, we believe iodides and x-rays of considerable value. In our hands, x-ray has seemed to be of benefit in reducing the uncomfortable inflammatory reaction, and is not intended to be fungicidal.

MYCOLOGY

The suppurative type of ringworm infection of man transmitted by cattle is usually caused by one of the faviform trichophytons. There appears to be a difference of opinion among mycologists as to the relationship to one another of the three organisms generally involved — *Trichophyton album, Trichophyton discoides* and *Trichophyton ochraceum.* Conant and his collaborators[6] claim that these so-called species are synonymous with *Trichophyton schonleini,* the causative agent of favus. MacKinnon and Artagaveytia-Allende[7] believe the three may be considered as synonyms but that they are quite distinct on a botanical, chemical, and epidemiological basis from *T. schonleini.* Georg[8] has suggested that they be considered as varieties of a single species— *Trichophyton faviforme.* We are more inclined toward the latter view, although in our experience we have not found the distinguishing characteristics between *T. faviforme album* and *T. faviforme discoides* to be clear-cut.

The infecting agents isolated from the four human cases and also obtained from one of the cows were identified as *Trichophyton faviforme** and according to cultural appearance were classified by us as belonging to the album variety.

Certain unusual features of *Trichophyton faviforme* as seen in direct examination of material from the lesion and also in culture may be confusing to anyone not familiar with this species of dermatophyte, and for this reason we are describing the laboratory observations as an aid to diagnosis.

Direct Examination: The fungous elements may be seen in wet mounts or gram stained smears of material expressed from the pustules present on the surface of the lesion. In the latter preparations, where not too strongly decolorized, the fungus spores usually appear as gram positive, round or oval bodies, 3 to 4 microns in diameter lying singly, in pairs or occasionally in chains of three or more elements among the leucocytes. Rarely short chains of three or more rectangular cells may be seen. The spherical form and relative scarcity of the fungous elements is in contrast to the numerous branching filaments generally seen in the common ringworm infections of man and may be confusing unless the examiner has had previous experience with the faviform trichophytons. The Hotchkiss-McManus stain is also satisfactory for direct examination but shows less contrast than does the gram stain.

Culture. Various authors, including MacKinnon[9], Robbins, MacKinnon and Ma[10], Fowle and Georg[4],

*Confirmation of this identification was made by Dr. Libero Ajello of the Communicable Disease Center, Chamblee, Georgia.

MacKinnon and Artagaveytia-Allende[7], have studied the vitamin requirements of the faviform trichophytons and pointed out the importance of certain members of the vitamin B complex in their nutrition. Georg[8] has suggested the use of Sabouraud agar supplemented with thiamine or (difco) blood agar base as suitable culture media for isolation and culture of this species. Growth occurs more rapidly at 30°C. to 37°C. than at room temperature.

Our initial isolations grew well on blood agar, but poorly or not at all on Sabouraud dextrose agar. However, when a thiamine supplement of 100 mcg. per cent was added to the latter medium, good growth ensued. In contrast to the majority of dermatophytic fungi of man, growth takes place slowly, individual colonies attaining a diameter of only 4 mm. to 5 mm. after ten days. The colony is glabrous in appearance with a raised, vermiculate center and adheres closely to the medium. As growth continues, the colony becomes much folded with sloping sides upon which a white, downy growth appears. Upon microscopic examination of the colony, irregular, many-branched hyphae may be seen. Terminal and intercalary chlamydospores are numerous in some colonies. Georg[8] has described the appearance of microconidia and macroconidia typical of the Trichophyton genus when these fungi are grown on media supplemented with thiamine.

Summary

Five cases of inflammatory ringworm in man due to *Trichophyton faviforme,* the common agent of ringworm infection of cattle, are presented. The source of infection is clearly indicated by the histories of the patients, four of whom were in daily contact with cattle. In three cases the patients had been treating ringworm infection in these animals. *T. faviforme* was cultured from the skin lesion of one of the animals.

Since laboratory procedures for the successful growth and identification of *T. faviforme* differ somewhat from those used routinely for the majority of dermatophytes, suitable methods are discussed.

A method of therapy is outlined which is of particular value in resistant cases.

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ADVANCED CARDIOSPASM ASSOCIATED WITH EXTREME MALNUTRITION—RELIEF BY DILATION—REPORT OF A CASE

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Failure to relieve cardiospasm by dilation is almost, if not always, the result of inadequate stretching of the cardia. Unless a swallowed silk thread is employed as a guide in introducing dilating instruments into the area of obstruction, relief from dysphagia will not be provided. Even when a guiding thread is utilized a hydrostatic dilator may slip above or below the segment of obstruction while it is being distended and effectual stretching is not obtained. In such instances symptoms are not relieved and frequently patients are advised to have some type of surgical treatment "because dilatation has failed to afford relief from dysphagia."

We have seen many patients with cardiospasm who have not been relieved from symptoms following dilation treatment in whom we have reason to believe that the cardia was really never adequately stretched.

At times during dilation with a hydrostatic dilator the instrument can be felt to pull into the stomach or push back into the esophagus during inflation. When this is noted relocation of the dilator is imperative if satisfactory dilation is to be obtained.

In other cases the dilator may apparently remain stationary but, unless expansion of the instrument produces pain at the cardia, effective stretching is rarely provided. Usually a small amount of bleeding is associated with the dilation.

When ordinary conventional methods of dilation fail to afford relief from dysphagia the dilator should be passed into the stomach and distended. Then the expanded instrument should be pulled forcibly, elevating the cardia as high as possible. Water pressure is then relaxed and after the dilator slips into the esophagus for two or three inches the pressure is rapidly renewed. This procedure always results in adequate dilation and relief from symptoms. This manipulation is associated with additional trauma and should be reserved for patients who are not relieved by ordinary methods of dilation.

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At times patients may have difficulty in swallowing a thread because of marked esophageal obstruction, lack of cooperation, or as the result of unexplained tangling with the formation of knots that prevent free passage of the dilator into the cardia. Perseverance and encouragement will almost always overcome these obstacles.

Infrequently marked starvation and associated mental apathy will present extremely difficult problems as indicated in the patient who is herewith reported. Most of these problems are not insurmountable, as illustrated in this unusual case.

CASE REPORT

The patient—a Negro man—was first examined and treated here at the age of 18 in 1930 for a gunshort wound of the abdomen. A perforation of the duodenum was repaired and the patient made an uneventful recovery. At his second admission in 1942, he complained of difficulty in swallowing that had been present for several years. The symptoms were typical of cardiospasm and roentgenoscopic studies revealed obstruction at the cardia with moderate dilation of the esophagus above the point of narrowing.

Following the passage of a sound, size 60 French, over a guiding thread, the patient was relieved from dysphagia, but was instructed to return for hydrostatic dilation of the cardia in case obstruction to swallowing recurred. Reappearance was deferred until December 18, 1952, when he entered the hospital in a deplorable state of starvation, having lost weight from 120 to 63 pounds (Fig. I).

Apparently relief from dysphagia was temporary, as is frequently the case unless the cardia is stretched with a hydrostatic dilator.

His blood count revealed a hemoglobin content of 3. grams per 100 cc. and the red cell count was 1,400,-000. The patient was apathetic and made no effort to help himself in any way. Roentgenoscopic examination revealed a widely dilated esophagus filled

with food and secretion (Fig. II). Other studies showed evidence of syphilis of the central nervous system. Blood transfusions, penicillin in large amounts, and vitamin products were introduced in every possible way. As was to be expected all efforts to have the patient swallow a thread were fruitless.



Fig. I.



Fig. II.

Supportive treatment was followed by sufficient general improvement to permit esophagoscopy on January 9, 1953. After the esophagus had been thoroughly evacuated of secretion, the cardia was located and the esophagoscope was passed into the stomach. A metal bobbin with thread attached was placed in the stomach. Three days later sufficient thread had passed into the intestinal tract to permit dilation of the cardia with a hydrostatic dilator.

Following treatment the patient was able to swallow normally and was sufficiently improved to return to his home on January 16, 1953.



Fig. III.

At his last examination on April 16, 1953, patient looked well and had not noted any further difficulty in swallowing. He had gained forty pounds in weight. (Fig. III).

CANCER OF THE THYROID INCIDENCE AND RELATION TO THYROID DISEASES IN THE TIDEWATER AREA OF VIRGINIA AND NORTH CAROLINA.*

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The ominous sign of a solitary node in the thyroid gland is still not sufficiently appreciated. In spite of a number of recent publications indicating the importance of this lesion, it is often neglected by physician and patient. On the other hand, two recent articles,[15,16] based largely on autopsy material, have tended to minimize the importance of the solitary node. Fortunately, Cope[5] and others[3,12] have questioned the validity of this approach. They pointed out that most patients with cancer of the thyroid die at home and therefore do not come to autopsy. In our experience the physicians of Tidewater likewise disagree on the necessity of removing the solitary node. Accordingly, we felt that it would be of value to study the thyroid lesions of this area. Since pathologic manifestations in this organ show marked geographical variations,[1,2,4,10] it would be of additional interest to examine the distribution of the various diseases of the thyroid in the Tidewater area of Virginia and adjacent North Carolina. To our knowledge, such a study has not been made.

The material consisted of all the surgical specimens collected over a three year period (1947 to 1950) from the pathological laboratories of the DePaul, Leigh Memorial and Community Hospitals of Norfolk and of King's Daughters' and Maryview Hospitals in Portsmouth. Patients from nearby North Carolina as well as from Virginia are treated in these institutions. This material also includes specimens sent in from the adjacent Tidewater area of these two States.

A total of 154 cases was studied. Of these patients, 79 were born in Virginia and North Carolina, and 46 elsewhere. The birthplace of 29 patients was unknown. Table 1 shows the incidence of the various diseases encountered. In the total material there were twelve cases of cancer, giving a percentage of 6.5. No agreement exists on the microscopic diagnosis of malignancy in the thyroid. Therefore, our criteria should be stated. Infiltration beyond the capsule and unquestionable blood vessel invasion (demonstration of the point of invasion in the section or thrombosis) were required for the diagnosis of cancer in debatable cases. Under these criteria none of the tumors with benign cell picture was classed as carcinoma. Table 2 shows the different types of cancer encountered. The most common type was the low grade papillary adenocarcinoma. Attention is called to the fact that the average age of these patients was 31 and three of the six were under the age of 30. Tumors of moderately high grade malignancy, the alveolar carcinomas, had a higher age incidence. This was also true of the single case of high grade anaplastic carcinoma. It is interesting to note that in only one case was a pre-operative diagnosis of cancer made and, in this patient, the lesion was inoperable.

Two of the cases of low grade malignancy belong to the group previously classified as "lateral aberrant

TABLE 1
INCIDENCE OF THYROID DISEASE IN 154 SURGICAL SPECIMENS

Diagnosis	No.	Per cent	Sex M	Sex F	Race W	Race C	Avg. age	Age range
Diffuse non-toxic	2	1.3	1	1	1	1	48	37-58
Nodular non-toxic goiter	50	32.5	1	49	34	16	43	16-67
Toxic Goiter	47	30.5	5	42	31	16	41	19-68
Diffuse	32		3	29	18	14	36	19-55
Nodular	15		2	13	12	3	53	44-68
Adenoma*	37	24.0	5	32	31	6	42	24-72
Carcinoma	10	6.5	2	8	9	1	42	24-68
Thyroiditis	8	5.2		8	8		47	23-64
Lymphomatous	5				5	5	44	23-58
Subacute Giant Cell	1				1	1	49	
Fibrosing (Riedel)	1				2	2	60	55-64
Total	154	100%	14	140	114	40		

*Colloid 23; Microfollicular 6; Fetal (tubular and trabecular) 6; Papillary 2.

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*Read before the annual meeting of The Medical Society of Virginia, at Virginia Beach, Va., October 7-10, 1951.

Table 2
Cancer of Thyroid—10 Cases

Type	No. of cases	Avg. age	Age range	Sex male	Sex female	Clinical Diagnosis
Papillary	5	31	24-42	2	3	2 Lymphadenopathy 3 Benign Adenoma
Alveolar	4	50	37-65		4	4 Benign adenoma or nodular goiter
Anaplastic	1	68			1	Carcinoma

thyroid." Until a few years ago it was widely believed that this benign appearing thyroid tissue occurring in the lateral part of the neck was a congenital abnormality. Recently it has been shown that it is a true metastatic growth and that the primary tumor can always be found in the thyroid gland. It is generally small, sometimes so minute that it can only be found microscopically.[6,8,11,13,19] In the two patients mentioned a lymphnode lateral to the carotid sheath was excised and was found to contain thyroid tissue. According to the modern concept of these tumors, the adjacent thyroid lobe was later removed and, in each case, the primary carcinoma was discovered. These primary tumors were characteristically small, one measuring 5 mm. and the other 2 mm. in diameter.

No cases of cancer were found in association with diffuse toxic goiter or with nodular goiter. The rarity of malignancy in toxic goiter is well known[14].

We were particularly interested in establishing the relationship of carcinoma to the solitary node. Forty-two of our 154 cases were clinically diagnosed as benign solitary adenoma. Five (12%) of these proved to have carcinoma.

The number of our cases is obviously too small to permit precise statistical conclusions. However, various points valuable for discussion are clearly shown. There is no "cancer age" for the thyroid. One-half of the cases of cancer were under the age of 40, and a third were under the age of 30. There were no children in this group, but the great danger of a solitary node in the thyroid of a child has been emphasized by others. In children under 13 years of age 55% of solitary nodules are malignant[2]. The younger the patient the greater is the danger of malignancy[17]. Cancer of thyroid in children develops most often at the age of early puberty; it also can occur in the pre-school age[9].

The single node is the point of attack in the prevention and cure of thyroid cancer. The incidence of malignancy in these lesions is amazingly high. As previously mentioned it was 12% in our group. Lahey and Hare[12] in reviewing a large series of cases report carcinoma in 10.04% of the solitary nodules. Others[1,2,4,5,18] have found the incidence of malignancy to be from 9 to 24%. G. Ward and his co-workers[17] believe that approximately 80% of malignancies originate in discrete adenomas and that 5 to 20% of discrete adenomas will eventually become malignant, a point which is difficult to prove.

There is general agreement that by clinical examination it is impossible to tell whether or not a node is malignant. Waiting for a definite diagnosis means waiting for inoperability. Anglem and Bradford[1] point to the folly of making the diagnosis by observation of continued growth until the malignant nature is clear and unmistakable. R. Ward[18] states that when carcinoma of the thyroid was diagnosed or suspected, 80% of the patients were dead after 5 years; when the diagnosis was established at operation, 60% were dead after five years; but when the diagnosis was made by pathological examination alone, only 20% had died at the end of five years. All clinically diagnosed cases proved to be of high grade malignancy in Coffey's series[2]. In our group the one cancer suspected pre-operatively was inoperable and highly malignant.

The present approach to cancer is prevention if this can be accomplished without undue risk. The removal of the single node in the thyroid is a harmless operation. Anglem and Bradford[1] report 331 prophylactic operations for a solitary nodule without a death. Lahey and Hare[12] also stress that there should be no mortality or morbidity.

We believe that for the purpose of statistics, as well as for the approach to the patient, a distinction should be made between nodular goiter and the solitary nodule. In Lahey and Hare's[12] series, there was a 10.04% cancer incidence in solitary nodules. However, in patients who had multiple nodes, the occurrence of malignancy was only .62%. Those who group the two entities together get a much higher percentage of malignancy for nodular goiter. It is in the non-goitrous area where the importance of the differentiation between the two can be shown clearly. When we approach the center of an area of endemic goiter where most adults have a nodular mass in the neck, the search for and the evaluation of a single node becomes more and more meaningless

even though the incidence of cancer rises remarkably.

Small is the number of cancer types which can be prevented. One is carcinoma of the thyroid. Lay propaganda informing the public of the dangerous single node in the thyroid, especially in non-goitrous regions, is necessary to accomplish this aim. A great responsibility rests upon the family physician. It is he who sees the patient first; it is he who by action or inaction decides the final outcome. The argument for prophylactic removal of the solitary nodule is forcefully stated by Lahey[12]: "It can, in fact, almost be said that if every discrete adenoma of the thyroid could be removed in its earlier stages, we would be able to eliminate, almost entirely, the occurrence of carcinoma of the thyroid."

A pre-operative diagnosis is generally impossible in curable cases. However, there is a valuable aid in establishing cancer at the operating table. In all of our cases the diagnosis of malignancy was made by the fresh frozen section with the exception of the lateral aberrant cancers in which this examination had not been requested. However, this method is limited in its value in that there is usually not sufficient time to make a careful search for invasion of the capsule and blood vessels. The rapid frozen diagnosis is of special value in a diffusely enlarged thyroid. It distinguishes readily between a fibrosing carcinoma and the wooden goiter of Riedel. It recognizes the lymphomatous goiter of Hashimoto and the subacute giant cell thyroiditis. In these two diseases, the value of thyroidectomy is questionable. It is, therefore, important that they not be treated as malignancy. X-ray therapy is desirable in subacute thyroiditis. In struma lymphomatosa x-ray or a conservative resection is indicated because it prevents the patient from developing hypothyroidism or myxedema, such as is commonly observed after extensive surgical removal of the gland in this condition.

The diagnostic value of the Delphian node which lies just above the middle of the thyroid over the cricoid cartilage was recently pointed out by Cope and his co-workers[5]. They state that this node can often be felt pre-operatively because there is no overlying platysma muscle in this region. In the thick lateral part of the neck small metastases are not easily felt. At operation the Delphian node should be exposed as the first step and removed for a fresh frozen section. If this node is positive for cancer, cutting into tumor tissue for diagnosis is eliminated. In 13 of Cope's cases of carcinoma, the Delphian node was invaded 9 times, and it was palpable pre-operatively 5 times. Though no systematic search was made for the Delphian node in our group of cases the presence of metastatic tumor in this node established the diagnosis of cancer in one of these patients.

In conclusion, only one point will be emphasized. In this non-goitrous area, the incidence of thyroid carcinoma is low, but it stands high on the list of preventable cancers. The single node in the thyroid must be removed.

SUMMARY

The incidence of the various surgical diseases of the thyroid in the Tidewater area is tabulated and reviewed.

The incidence of cancer in solitary nodes was 12%.

The danger of a single node in the thyroid is stressed, and its prophylactic removal is urged. Lay propaganda is recommended.

The Delphian node and the value of the fresh frozen section are discussed.

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AN APPRAISAL OF ANTICOAGULANT THERAPY OF MYOCARDIAL INFARCTION*

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Richlands, Virginia

The anticoagulants were first introduced for treatment of myocardial infarction in 1945[1]. Since then a voluminous literature concerning their use has appeared. However, despite the passage of eight years, there is no unanimity of opinion concerning their value. Wright[2] considers that their efficacy has been proven, and states they should be administered in every case of myocardial infarction. Russek[3], after extensive investigation, believes that they should be used in only "poor risk" patients. Others[4,5] have cast doubt on their worth in this disease. Widespread publicity, both lay and medical, has been focussed upon the subject. Many thoughtful physicians, who are yet unconvinced or uncertain of their value, have expressed concern about possible litigation for malpractice if a patient under their care with myocardial infarction were to succumb without having received anticoagulants[3]. It is the purpose of this paper to review the pertinent recent literature and draw some conclusions applicable for the average practitioner of medicine confronted with this problem.

Wright and his associates[6], in the American Heart Association study of a series of 1031 cases, reported that the mortality rate in myocardial infarction could be reduced from 23.4 per cent to 16 per cent. This is a statistically significant figure for such a large series, and would superficially seem to have proven the case for anticoagulants. However, certain deficiencies of this study have been pointed out[4]. Supposedly only patients admitted on odd days received anticoagulants, and those admitted on even days none. In the final study there were sixty-three more patients in the treated group than in the control, which could not have happened by chance[4]. Cases were admittedly shifted from one group to the other. Twelve per cent of the control group received anticoagulants at one time or another. It is obvious that strict random selection of patients was not carried out and the statistics based on this study lose much of their meaning. Many believe that this study cannot be used for the final evaluation of the subject because of these discrepancies.

Russek[3] has demonstrated that cases of myocardial infarction can be successfully divided into "good" and "poor risk" groups on the basis of information available on the day of admission. "Poor risk" patients were selected on the basis of severe shock, intractable pain, history of previous myocardial infarction, cardiac enlargement, gallop rhythm, arrhythmias, heart failure, and complicating diseases. He states that the prognosis of "poor risk" patients can be improved with anticoagulants. "Good risk" cases, which make up about forty per cent of his large series, have a mortality rate in those surviving the first forty-eight hours of 1.2 per cent, which could not be appreciably affected by this therapy. Therefore, he concluded that "good risk" patients have little to gain from this therapy as compared to the danger of its use. Furman *et al.*[7] have recently further divided their patients into three prognostic categories of "good", "poor" and "very poor risks". They found that the "good" and "very poor risk" patients were not benefited, but that mortality was lowered in "poor risk" patients.

Bresnick,[8] in a well studied series at the Boston City Hospital, found no essential difference between control and treated groups. Similar results were published in another study[9]. Russek[10] in 1953 found that about one-half of a large group of specialists that he polled did not use anticoagulants routinely in the treatment of myocardial infarction.

The question of the value of anticoagulants in preventing fatal pulmonary embolization from thromboembolic disease in general has been raised. In two large hospitals[11,12] deaths due to pulmonary emboli have risen in recent years, despite the widespread use of anticoagulants and vein interruption.

The danger inherent in the administration of anticoagulants has not received due emphasis. The reported deaths from dicumarol now exceed one hundred[3], and undoubtedly these are only a fraction of the actual number. Many physicians on conversation will mention cases they have personally encoun-

*Presented at the Opening of the New Wing, Clinch Valley Clinic Hospital, Richlands, Va., July 8, 1953.

tered of deaths due to hemorrhage from dicumarol that have not been reported. Major hemorrhage has occurred in approximately 2% of patients treated with anticoagulants[13].

The initial dose of dicumarol is from 200 to 300 mgms., and the maintenance dose is usually from 50 to 100 mgms. a day. Most authorities believe the prothrombin concentration should be kept between 20 to 30 per cent of normal. There is a wide individual variation in response. From personal experience in the treatment of hundreds of cases of all forms of thrombo-embolic diseases at the Johns Hopkins Hospital it was found that the maintenance dose varied from as much as 25 to 200 mgms. per day. The dose for each individual can only be determined by trial. Daily prothrombin times are necessary for control of dicumarol therapy. It is well to remember that the effect of any one dose is usually apparent 48 hours later, and this should be kept in mind in ordering the drug. Prothrombin times are difficult to perform by the inexperienced, and only technicians trained in their performance should be employed. Most laboratories employ some modification of the Link-Shapiro one stage method. It is also necessary to know what thromboplastin is used, as Conley[14] found that different commercial thromboplastins gave different prothrombin dilution curves. The therapist should know the thromboplastin and method used in his hospital, and the dilution curve for that thromboplastin and method.

Over a period of four years from 1948 to 1952 at the Johns Hopkins Hospital the author gained personal experience in the administration of dicumarol to several thousand patients. During that period of time there were no known fatalities due to anticoagulants at that hospital. The system in use there could well be adopted by others. The prothrombin times were performed in a central laboratory and the dicumarol therapy was ordered by the director of that laboratory and his assistants. Only one person in the hospital ordered the drug at a time. Thus only a few individuals with wide experience administered this therapy instead of many.

Other anticoagulants with similar properties as dicumarol have been introduced. Tromexan and phenylindanedione (Hedulin) have received the most study. On the whole, the reduction of prothrombin concentration with these drugs appears and disappears more rapidly[2]. It is more difficult to maintain a stable prothrombin level because of these effects, and most authorities feel that dicumarol is the most satisfactory drug of this type presently available. The therapist should choose one of these agents and master its use. For maximum anticoagulant benefit for the first forty-eight hours, heparin should be used until dicumarol becomes effective.

Vitamin K_1 intravenously in 100 mgm. doses is an effective antidote for over-dosage of dicumarol, tromexan, or phenylindanedione. The prothrombin time is usually lowered to safe levels in four hours. This material is far more effective than Hykinone (vitamin K), in 72 mgm. doses, which was previously employed, and should replace it for general use. It should always be available whenever and wherever dicumarol or related drugs are being administered.

The recognized contraindications for dicumarol therapy are as follows[2]: hypoprothrombinenia due to vitamin K deficiency or liver disease, subacute bacterial endocarditis, renal insufficiency, blood dyscrasias with abnormal clotting mechanisms, accidental or surgical trauma to the brain or spinal cord, vitamin C deficiency until corrected, benign or malignant ulcers of the gastor-intestinal or genito-urinary tract.

SUMMARY

Anticoagulant therapy is not indicated routinely for the treatment of myocardial infarction as "good risk" patients have no demonstrable need for it. "Poor risk" patients should receive these drugs according to our present knowledge, although the final proof of their value is lacking. Dicumarol should never be given in the presence of recognized contraindications, in the absence of adequate control facilities, or by inexperienced therapists who are ignorant of its proper administration or control. Vitamin K_1 is an effective antidote and should always be available whenever dicumarol is used.

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Describe New Method of Suture Removal.

A new method for the quick, relatively painless removal of surgical skin sutures, by means of a "suture lift," was described in the July 25 J.A.M.A. by Drs. Mandel Weinstein and Morton Roberts, Jackson Heights, N.Y.

The procedure is a very simple one. After the regular stitches have been made, a separate piece of nonabsorbable surgical suture is passed around the loop of the first stitch of the regular suture and tied. The thread is then passed under the loop of the second stitch and around the loop of the third. This procedure is repeated so that every other stitch is fixed to the "suture lift" by an extra turn of the thread.

When the regular stitches are to be taken out, traction upward on one end of the "suture lift" permits the fine thread of the regular stitches to be easily raised, cut and removed, the doctors wrote.

Removal of skin sutures is sometimes very painful because, during the normal healing processes of operative wounds, swelling may cause the suture to be so depressed and buried in the skin that delivering it for severance may be almost impossible, the authors stated. This is especially true if the incision is between skin folds or crease lines.

RUPTURED LIVER DUE TO PERIARTERITIS NODOSA— REPORT OF A CASE

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Periarteritis nodosa, a necrotizing inflammatory lesion of small arteries, arterioles, occasionally also of veins[1], used to be considered a rare disease. Greater awareness of the lesion has resulted in more frequent clinical diagnosis, even though its true incidence may not have increased proportionately. Rupture of the liver as a complication of periarteritis nodosa was reported in 1917 by Klotz[2]. Another case of fatal rupture was reported in 1943[3]. The present case is being reported because of its rarity and in order to illustrate the difficulty of recognizing the causes of acute pain in the abdomen.

CASE REPORT

A 47 year old white male was re-admitted on 9-3-48 complaining of dyspnea, orthopnea, and pedal edema of six weeks' duration. He had been discharged five months previously with a diagnosis of hypertensive arteriosclerotic heart disease, arteriolonephrosclerosis, schizophrenia and calcification of the right renal artery, of unknown etiology. He did fairly well until August of 1948 when the above symptoms reappeared. Initial examination revealed a chronically ill white male with a temperature of 99.8, pulse 120 and blood pressure 244/150. Moist rales were heard at the bases posteriorly. The heart was enlarged to the left, and had a gallop rhythm. Tenderness was noted at both costo-vertebral angles and the liver edge was palpable one finger-breadth below the costal margin. It was tender. Moderate pitting edema of the ankles was recorded.

Laboratory Data: The urine contained albumin (four plus) and a few white blood cells. The erythrocyte count was 4,100,000 per cu. mm. and the hemoglobin was recorded as 13 grams per 100 ml. The Kahn test on the blood was negative. The leucocyte count was 8,900 per cu. mm. with a normal differential; the sedimentation rate (Westergren) was 98 mm. per hour. The non-protein nitrogen was 42.2 mgm. per 100 ml. and the cephalin flocculation was 2 plus/2 plus.

Course: The patient responded well to oxygen, digitalis, diuretics and progressed satisfactorily until his twenty-first hospital day. Then he developed severe pain in his chest and abdomen and his erythrocyte count dropped to 2,300,000 per cu. mm. Two days later it was recorded as 1,500,000 per cu. mm. His blood pressure was 96/56 and he died two days later. The clinical diagnosis was in doubt; dissecting aneurysm, pancreatitis and mesenteric thrombosis being considered.

AUTOPSY

Post-mortem examination disclosed the following pertinent changes. There was an estimated 600 cc. of partially clotted blood in the peritoneal cavity, evidently due to a 6 cm. jagged tear in the right lobe of the liver, which was surrounded by a sub-



Fig. 1. Linear laceration of liver and extensive subcapsular hemorrhage.

capsular hemorrhage (Figure 1). The heart weighed 800 grams and the left ventricle was hypertrophied in concentric manner. There was a recent posterior infarction of the heart and arteriolonephrosclerosis and arteriosclerosis, generalized, were found. Adhe-

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sive pleuritis was seen on the right. There was aneurysmal dilatation and calcification of the right renal artery. The branch supplying the upper pole of the kidney was almost completely occluded[4].

Microscopy

Infarcts, associated with inflammatory vascular lesions, were found in the heart, testis, brain, gall bladder and liver. The vascular lesions varied in age. In some, there were fibrinoid changes of the vessel wall with thrombosis of the lumen, while others showed "healed" lesions of periarteritis nodosa (Figures 2 and 3).

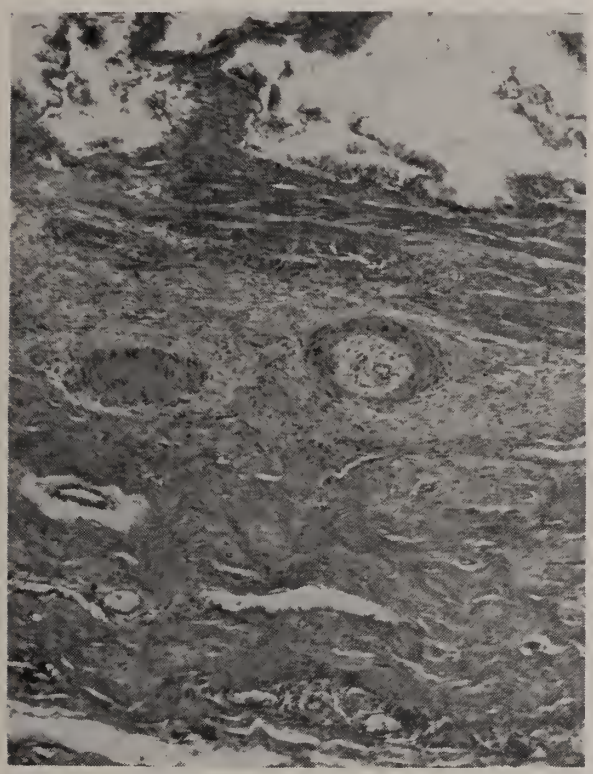


Fig. 2. Photomicrograph of the gall bladder. In the walls are several vessels with varying stages of vasculitis including fibrinoid necrosis, perivascular inflammation and thrombotic occlusion.

Final Diagnosis

Hemoperitoneum due to spontaneous fracture of liver due to diffuse vasculitis (periarteritis nodosa).

Death was considered due to shock and vascular collapse, secondary to the changes listed above.

Summary

A case of spontaneous fracture of the liver with fatal hemorrhage due to periarteritis nodosa is reported. Attention is drawn to the difficulty of diagnosing the etiology of acute abdominal pain.

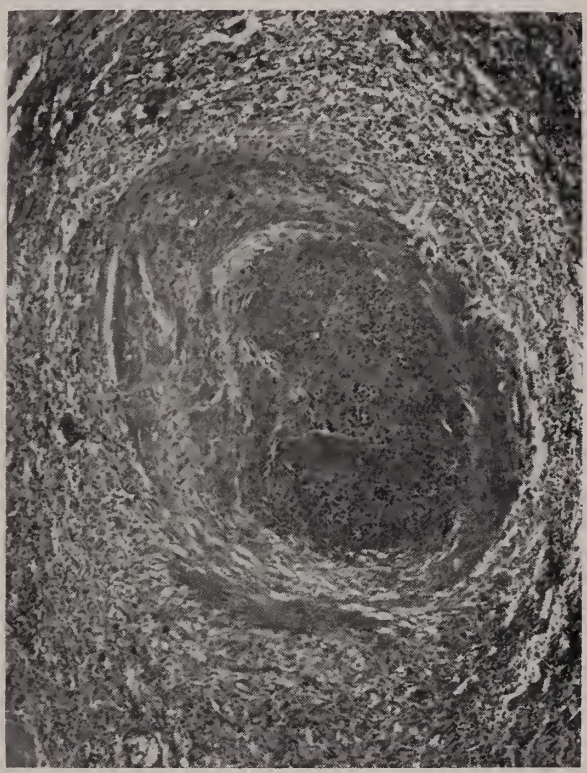


Fig. 3. Higher magnification of one of the vessels illustrated in Figure Two. The vessel contains an organizing thrombus and it is surrounded by inflammatory cells. The walls are sclerotic.

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MEDICO-LEGAL NOTES

Privileged Communications

Physicians are required by professional ethics to preserve the secrets, relating to the performance of their professional duties, communicated to them by their patients regardless of whether these facts are obtained from examination or communications. The extent to which this ethical requirement coincides with the law varies considerably.

In a strict sense the term "privileged communication" applies only to those communications between a patient and his physician, concerning which the patient has a right to prevent disclosure by the physician, in court.

At common law, this type of privilege existed concerning communications between hubsand and wife, and between attorney and client, but not regarding communications between a physician and his patient. The State of Virginia has not passed a statute providing for such a privileged status for communications between patient and physician, and in the absence of such a statute, the courts, during the course of a legal proceeding, may require a physician to divulge anything which has been told to him by a patient, regardless of the objections of the patient. More than a dozen of the states, like Virginia, have never provided for such a privilege. This is not necessarily bad. These statutes have, upon occasion, obviously thwarted justice.

Even in the states which provide, by statute, for privileged communications between patient and physician; evidence obtained from an autopsy is generally held not to be privileged; physician's records contained in hospital records may or may not be privileged, depending on the circumstances; and communications between patient and nurse are generally not privileged. Even though a professional relationship exists, only the information necessary to enable the doctor to act in his professional capacity is privileged. Matters which are entirely distinct from medical facts may be disclosed.

The privilege belongs to the patient and not to the physician. Hence, the patient cannot be forced to testify about his medical consultation anymore than the doctor. Conversely, if the patient consents to the disclosure, the doctor may no longer insist on remaining silent. If the patient sues the physician for malpractice, he immediately waives his privilege.

A second type of communication to which the term "privileged communication" is frequently applied, is illustrated by that type of communication between the physician and a public health authority involving a report of a contagious or a venereal disease, pursuant to the statutory law of the state. In this instance, the physician has a privilege to disclose the information obtained through the medium of his confidential relationship with the patient, in addition to a statutory responsibility to do so. The physician here accrues no liability to the patient for any damage that may ensue, such as the loss of employment or social embarrassment.

The law in many states has been solicitous of the doctor's duty to keep silent on the witness stand, but it has done little to protect the patient's medical secrets from disclosure to other persons in general, except when disclosure of these secrets involves libel, slander, or gross invasion of privacy. The law in this latter area is not well settled due to the absence of statutes, a minimum of litigation, and the necessity of showing damages in order to collect a worthwhile judgment, although the moral or ethical obligation is clear.

*Contributed by Charles W. Whitmore, M.D., L.L.B., University of Virginia Hospital and Medical School, Charlottesville, Virginia.

PUBLIC HEALTH

Mack I. Shanholtz, M.D.
State Health Commissioner of Virginia

Rabies in Man.

The recent death from rabies, August 1953, reminds us of the continued presence of this disease, that it is invariably fatal and that we should carry on our efforts to wipe it out in the animal reservoir and thereby prevent the infection of human beings.

Rabies has been known since ancient times and its symptomatology is characteristic. A history of exposure to infection and the site of infection can usually be obtained. The incubation period may be short, as few as ten days, or long, up to eight or nine months, but usually ranges between fifteen days and five months. During the first two to four days of the onset there may be malaise, headache, elevation of temperature from one to three degrees without fluctuation, anorexia, nausea and sore throat. When there is headache, it is most often localized in the occipital region or over the vertex. There is frequently some abnormal sensation about the site of infection. Bright lights and loud noises may cause convulsive seizures. The onset of the excitement stage is gradual and it is predominant up to death. The most prominent clinical feature is related to the act of swallowing; fluid coming in contact with the fauces is expelled with violence and there are painful, spasmodic contractions of the muscles used in swallowing and of the accessory muscles of respiration. When a patient is known to have been bitten by a rabid animal and when the symptomatology is characteristic, there is little difficulty in making a correct diagnosis.

In the case of the man who died recently, the disease was not suspected at first. There were no open wounds. Respiratory symptoms suggested asthma, from which he had previously suffered. Excitability developed and this, together with the history that the man had, in addition to his full-time job as an automobile mechanic, a part-time job in an animal hospital cleaning cages and holding animals during treatment, led to the consideration of rabies. Death followed within three days and, at autopsy, the diagnosis of rabies was confirmed.

If rabies is to be eradicated from an area, there must be coordination of effort so that control measures will be carried out at the same time in the localities reporting infection. This applies in county, state or country. It requires centralized authority to bring about uniformity of measures. Rabies has been eliminated from several counties in Virginia.

The disease is maintained solely in animals and primarily in dogs. It is usually the local veterinarian who first learns of its presence and he is the person whose cooperation is most desired. Regulations are essential. They include the licensing of dogs and taxation of their owners, the seizure and destruction of all stray dogs, the quarantine or muzzling of all owned dogs while rabies prevails and for at least six months after the last reported case, and the quarantine of all dogs imported into the area for six months. If rabies be prevalent in a community, any dog that has bitten a person should be confined to permit observation for 7 to 14 days and to insure that the animal does not escape if it has rabies. When a rabid dog is found, untiring effort should be made to locate all other animals that were exposed to it so that they may be quarantined.

Vaccination of dogs is recommended; in order to be highly effective it must be combined with other control regulations. To secure prompt recession of rabies and to simplify and aid the collection of stray dogs, a 90 day quarantine for all dogs is advisable.

Rabies in wild animals may be combated by hunting and trapping. The disease cannot persist if the vectors and hosts are drastically reduced among the wild animals in and around a focus of rabies. Without these measures, the disease will kill most of the animals anyway, but the infection will have spread to other areas.

Human deaths from rabies in the past ten years have occurred as follows:

1943—1	1948—0
1944—1	1949—0
1945—1	1950—0
1946—0	1951—0
1947—2	1952—0

Monthly Report of the Bureau of Communicable Disease Control

	August 1953	August 1952	Jan.-Aug. 1953	Jan.-Aug. 1952
Brucellosis	10	6	38	27
Diphtheria	3	4	56	56
Hepatitis	209	64	1642	483
Measles	144	176	4563	15390
Meningitis (Meningococcic)	7	10	144	146
Poliomyelitis	267	268	459	342
Rocky Mt. Spotted Fever	11	18	49	62
Scarlet Fever	19	14	644	547
Tularemia	4	0	22	34
Typhoid & Paratyphoid	11	23	49	68
Rabies in Animals	30	20	328	347
Rabies in Man	1	0	1	0

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department Mental Hygiene and Hospitals

Jackie Goes to the Clinic*

Jackie, a twelve year old boy in the fifth grade, is one of many such children in our public schools. Jackie repeated the first and fourth grades, and according to his teacher and his mother, was making little progress in the fifth grade at the middle of the year. It was at this time that Jackie was referred to the Mountain Empire Guidance Center by the visiting teacher at the request of the teacher. The teacher had recognized extreme shyness and a lack of interest in the boy and she was eager to get some help that would result in better school adjustment.

On the report that she sent to the Clinic she stated that Jackie had a history of working and playing alone. While other children were busy with their school activities, Jackie sat and looked out of the window. On the playground he wandered aimlessly around or stood and daydreamed unless the teacher gave him her constant attention.

He lives in a rural section approximately two miles from the nearest home where his maternal grandmother lives.

Jackie's mother and the visiting teacher accompanied him to the Clinic. He appeared shy and retiring but was cordial. The mother said that she was glad to find some help for her son. The history that she gave revealed that Jackie was the youngest of five children. The father had been killed in an automobile accident ten years before while intoxicated, and the mother had worked in a mill in a nearby town since her husband's death. Jackie's older brothers and sisters cared for him in the summer while the mother worked, and during the winter, the maternal grandmother stayed with Jackie during the day while the other children were in school.

Jackie was the only member of the siblings who had some speech difficulty when he entered school at the age of six. He substituted some sounds and omitted several others. At first the family thought his speech was "cute" and would often ask him to say certain things before guests. Later they began teasing him about his speech. The first grade teacher said that she was unable to understand him and recommended repeating the grade.

The mother took Jackie to the family doctor who said that he would outgrow his speech difficulties and that there was no need to be alarmed. But Jackie continued to be more shy and withdrawn, until at the time he entered the Clinic, he was talking very little with anyone. He participated little in class discussions although some of his written work showed evidence of understanding.

When Jackie arrived at the Clinic, he was taken to the playroom and told that he would probably find some books, toys, or games that he might enjoy. At first he looked casually at objects in the room, but later became interested in a phonetic chart with pictures representing the sounds of the alphabet. He asked the therapist about the chart and a phonetic game began. His interest increased as the game continued and when the letter "J" was sounded, he was asked to say his own name, to which he replied, "Ackie". With some help he soon made the "J" sound and used it in front of his name. He then turned to the therapist and said, "That is the first time I have ever said my real name". After that he became more animated and talked at length, stating that no one ever understood him nor liked him at school. When he was told that he could learn to say words as other children, he appeared very pleased and asked to continue playing the "sound" game.

When a psychological examination was administered, Jackie was found to have average ability. His first psychiatric interview revealed anxiety, largely due to his feeling that he was not accepted by his peers.

The Clinic team set to work to reeducate Jackie's family and to help the school understand some of Jackie's problems. An effort was made to help the family sense the importance of making him feel more secure. They were encouraged to give him some important tasks in the home and to listen with interest to his conversation.

Visits were made to Jackie's school where many conferences were held with his teacher and principal. Both were cooperative and the teacher asked for suggestions to help Jackie overcome his shyness and

*Article prepared by Mae Kelly, Psychologist, Mountain Empire Guidance Center, Radford College, Radford, Virginia.

seeming lack of interest in his school activities. It was suggested that Jackie be treated in the same way as other children in his school activities, thereby giving his peers an opportunity to note his effort and progress and to accept him. Jackie showed rather outstanding artistic ability and it was suggested to the teacher that his productions be used for a school program where posters or pictures were needed.

In the meantime, Jackie was receiving daily speech therapy at the Clinic and meeting regularly with the Clinic team.

At the end of a year Jackie had overcome his articulatory defects to the place that he would make corrections, whenever he made errors, in his conversation. He was participating with satisfaction in his school activities, his Sunday School class, and in the Boy Scouts. His sixth grade work was better than average, and most of all, he appeared to be a happy, well-adjusted boy in his family and in his community.

BOOKS

The Psychology and Psychotherapy of Otto Rank. An Historical and Comparative Introduction. By FAY B. KARPF, Ph.D. Philosophical Library, New York. 1953. x-129 pages. Cloth. Price $3.00.

This book gives more than the title promises. It is not only a comprehensive and intelligible presentation of the psychological views and psychotherapeutical method of one of Freud's earliest associates, but at the same time, an outline of the essentials of psychoanalysis in its original setting and of the systems of two other offsprings of psychoanalysis, Adler's individual psychology and Jung's doctrine emphasizing the synthetical rather than the analytical aspect of psychotherapy. Rank's own thought stands against the background of psychoanalysis as voluntaristic and humanistic against deterministic and mechanistic. Less emphasis is laid by him on the interpretation of the patient's experiences and past than on the "dynamics" of the relationship in the interview. More room is left for values, "spiritual immortality as against sexual mortality" (p.109). In brief, in Rank's teachings, ego and consciousness emerge as factors of greater importance for human life and recovery from neurosis than instincts and impulses.

W.R.

New Books.

Some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, are listed below. These are available to our readers under usual library rules.

Ackerman—Surgical pathology. 1953.
Advances in pediatrics. Vol. 6, 1953.
Cahoon—Formulating x-ray technics. 3d ed., 1953.
Chamberlain—Symptoms and signs in clinical medicine. 5th ed., 1952.
Eccles—The neurophysiological basis of mind. 1953.
Ford—Diseases of the nervous system in infancy, childhood and adolescence. 3rd ed., 1952.
Grulee & Eley—The child in health and disease. 2d ed., 1952.
Holt & McIntosh—Holt pediatrics. 12th ed., 1953.
Horder & Gow—The essentials of medical diagnosis. 2d ed., 1953.
Josiah Macy, Jr. Foundation—Adrenal cortex. 1953.
Lindskog & Liebow—Thoracic surgery and related pathology. 1953.
Mallett—Handbook of anatomy & physiology for x-ray technicians. 1952.
Marple & Wright—Thromboembolic conditions and their treatment with anticoagulants. 1950.
Quick—Physiology and pathology of hemostasis. 1951.
Recent progress in hormone research. Vol. 8, 1953.
Selle—Body temperature: its changes with environment, disease and therapy. 1952.

THE MEDICAL SOCIETY OF VIRGINIA

COMMITTEE REPORTS RECEIVED TOO LATE TO APPEAR IN THE SEPTEMBER MONTHLY

Rehabilitation

The Committee of Rehabilitation, also acting as Professional Advisory Committee for the Vocational Rehabilitation Service, State Department of Education, has continued its several functions during the past year.

Individual members, located in various geographical areas of the state and representing various specialty fields, have served as consultants to the staff of the Rehabilitation Agency throughout the year. Professional advice was given on individual cases involving medical problems. In addition professional guidance was provided on the revision of and additions to the professional fee schedule.

The Committee encouraged the expansion of the Physical Evaluation Program. The several Units of the Program is to determine more effectively the rehabilitation prospects of severely disabled cases and those with multiple medical problems through the team approach technique. In addition to the Norfolk Unit, others have been established in Newport News, Richmond, Roanoke, and at Woodrow Wilson Rehabilitation Center, Fishersville. Each of these Units is meeting periodically as the need arises. The results reported during the past year clearly demonstrate the advantages of this approach to case appraisal and further expansion of the Physical Evaluation Program is anticipated.

A regular meeting of the Rehabilitation Committee was held at the John Marshall Hotel on March 22. In addition to regular committee members, others present were: R. N. Anderson, Director, Vocational Rehabilitation and Special Education; Dr. J. M. Mennell and Mr. F. O. Birdsall of Woodrow Wilson Rehabilitation Center; Dr. Herbert W. Park, Physiatrist, Department of Physical Medicine, Medical College of Virginia Hospital; Messrs. Corbett Reedy and Floyd H. Armstrong of the State Rehabilitation Service.

Encouraging reports were submitted on the accomplishments of the Woodrow Wilson Rehabilitation Center and the effectiveness of the several Units of the Physical Evaluation Program.

Mr. Robert I. Howard, Executive Secretary-Treasurer and Director of Public Relations, attended a portion of the meeting and informed the Committee of tentative plans for a session on "Rehabilitation" at the next annual meeting of the Virginia Medical Society. The Committee expressed its hearty approval of the plan.

Respectfully submitted,

ROY M. HOOVER, M.D., *Chairman*
GEORGE A. DUNCAN, M.D.
J. R. BLALOCK, M.D.
LEROY SMITH, M.D.
FRANK B. STAFFORD, M.D.
W. E. DICKERSON, M.D.
G. S. FITZ-HUGH, M.D.
FLETCHER J. WRIGHT, M.D.
A. L. CARSON, JR., M.D.
RENO PORTER, M.D.
EDWARD E. HADDOCK, M.D.
CHARLES L. SAVAGE, M.D.

To Confer With The State Board of Nurse Examiners

The committee to confer with the State Board of Nurse Examiners appointed by Dr. James L. Hamner, President of the Medical Society of Virginia, October, 1952, at the time of this writing, has had no formal meetings and has had no request, either from physicians or nurses, to consult.

Parenthetically, the present trends in nursing education and nursing practice being what they are, one might fairly raise the question whether the Committee should (1) try to do something about it or (2) acquiesce silently into the oblivion of futility.

Not being disposed to initiate a crusade, the Committee has no further report to submit at this time.

Signed,

R. V. BUXTON, M.D.
J. A. SHACKELFORD, M.D.
E. L. LOWENBERG, M.D.
F. JOHNS, M.D.
M. H. HARRIS, M.D.
J. M. HABEL, M.D.
C. B. MORTON, M.D., *Chairman*

EDITORIAL

Howard Taylor Ricketts (1871-1910) and Rickettsiae

THE rickettsiae and viruses have taken their toll of martyrs of science, and their study has opened a new era in medicine. These infectious agents are obligate parasites so small that it is difficult to see them with ordinary microscopes and many are so small that they readily pass through earthenware filters. As demonstrated by special microscopes they vary greatly in size and shape. It is difficult to obtain enough material in pure form to study them chemically but one, at least, the tobacco-mosaic virus, appears to be nothing more than a crystal of nucleoprotein. Outside of their host cells they exhibit no sign of life—respiration, metabolism, nor reproduction—yet when united to their specific host cells they cause some of the most dread diseases of man and beast. Among them may be mentioned: Viral encephalitides (St. Louis, Japanese, Australian, western equine, eastern equine, etc.), rabies, poliomyelitis, infectious hepatitis, serum hepatitis, common cold, atypical pneumonia, influenza, smallpox and



Howard Taylor Ricketts, M.D.
Courtesy of the Armed Forces Medical Library

vaccinia, psittacosis, trachoma, measles, rubella, epidemic keratoconjunctivitis, herpes zoster, mumps, infectious mononucleosis, pretibial fever, Colorado tick fever, yellow fever, Rift Valley fever, dengue, typhus fever (louse-borne), typhus fever (flea-borne), Brill's disease, Rocky Mountain spotted fever, etc., scrub typhus, Q fever, trench fever, and foot-and-mouth disease (in cattle).

Many of these diseases confer lasting immunity, others an immunity of shorter duration and others no immunity at all. As a group they afford an opportunity for worthwhile studies, but unfortunately, adequate study of these diseases requires elaborate

techniques and highly trained personnel that are not available in ordinary clinical laboratories. One must have a range of laboratory animals from mice to monkeys, and thousands of chick embryos. One might well call this era the monkey-chick-embryo-era. Even to make a diagnosis, such equipment is needed. To decide whether the disease that Brill described in New York were real typhus or not, epidemiologists with their laboratory animals inoculated with their particular strains of disease from New York and the Rocky Mountains met in Mexico City where typhus was endemic. It was such a conclave of men, monkeys, and infected arthropods that cost Ricketts his life.

Typhus fever has always been a dangerous disease for doctors and nurses. In some epidemics it has killed literally hundreds of them. In my student days there was a small outbreak—six cases, I believe—in Baltimore. They were carefully guarded in the isolation ward and the students were not allowed even to see them. Of the six men working with Ricketts in Mexico, three contracted the disease, two of whom, Ricketts and Conneff, died. The causative agent, *Rickettsia prowazekii* was named for Ricketts and S. von Prowazek, an Austrian, who also lost his life while studying the disease.

Howard Taylor Ricketts was born on an Ohio farm. Early in his life, his parents moved to Champaign County, Illinois. At sixteen he entered the Academy of Northwestern University and at nineteen the University proper. In his sophomore year he decided to study medicine. It is said that a fellow student, who afterwards became his wife, had much to do with the decision. His family now moved to Lincoln, Nebraska, and in 1894 young Ricketts took his Bachelor's degree at the University of Nebraska. He graduated in medicine from Northwestern in 1897 and served as interne at Cook County Hospital until 1899 when he became a fellow in cutaneous pathology in Rush Medical College.

In 1900, Ricketts married Myra Tubbs who supported him in his work with rare devotion, keen interest, and steady encouragement, and bore him two children, a son and a daughter.

Returning in 1902 from a year's visit to European laboratories, he came to the University of Chicago as instructor in the newly founded Department of Pathology and Bacteriology. Later he became assistant professor and, in the early part of 1910, he accepted the chair of pathology at the University of Pennsylvania, a position he did not live to fill.

His earlier researches, begun in 1902 on blastomycosis and immunological problems, are marked by thoroughness and directness and by clear and forceful reasoning. He took up the study of Rocky Mountain spotted fever in the spring of 1906 as a pastime during an enforced holiday on account of overwork. The peculiarities of the disease intrigued him. It is sharply limited geographically and occurs only in the spring. For some time it was vaguely thought to be related in some way to the bite of a tick. Ricketts not only found the particular tick involved but demonstrated the causative agent in the patient, and in the body, eggs, and offspring of the infected tick. The hereditary transmission of spotted fever virus in the tick was an entirely new concept.

His work on Rocky Mountain spotted fever naturally led to typhus fever as their problems are similar. In December 1909 he went to Mexico to study typhus fever. At the time the cause of the disease had not been discovered. Nicolle (1909) in Tunis was able to transmit the disease to the chimpanzee by injecting the blood of human patients, but was able to infect the macacus monkey only by using the body louse. In Mexico, Anderson and Goldberger (1909) had no difficulty in infecting a macacus and a capuchin

by direct inoculation with virulent human blood. This was apparently laboratory confirmation of the widespread belief that the old world typhus and the new world typhus were two different diseases. Shortly after he demonstrated the actual cause, Ricketts contracted the disease and on May 3, 1910, he died in a tent on the grounds of the American Hospital. President Diaz of Mexico directed that the professors and students of the National Medical School be present on the occasion of the removal of the body to Chicago, that the medical school and institute of bacteriology be draped in mourning for three days, and that the laboratory in which Professor Ricketts had made his investigations be named "The Howard T. Ricketts Laboratory". The Chicago Pathological Society published as a memorial volume "Contributions to Medical Science by Howard Taylor Ricketts 1870-1910".

Ricketts is described by Professor Hektoen, his chief at Chicago, as a modest, unassuming man of great determination and of the highest character, loyal and generous, earnest and genuine in all his doings—a personality of unusual and winning charm.

SOCIETIES

Virginia State Board of Medical Examiners.

Following is a list of those licensed by the Board at its examinations in Richmond, June 17-20, 1953:

Licensed to Practice Medicine and Surgery by Examination

Dr. Simeon Huey Adams, Gastonia, N. C.
Dr. Betty Austin Agee, Warrenton
Dr. Richard Bryan Agee, Warrenton
Dr. Pedro Juan Alfaro, Caparra Heights, Puerto Rico
Dr. William Glenn Allen, Jr., Charlottesville
Dr. Robert Francis Barbe, Abingdon
Dr. Cavitt Kinkle Bartley, Charlottesville
Dr. James Gordon Beach, Jr., Gary, W. Va.
Dr. Eugene Bene, Staunton
Dr. Wesley Clifford Bernhart, Springfield, Ohio
Dr. Charles Lee Boatwright, Jonesville
Dr. Lester Ray Bond, Roanoke
Dr. Herman Wallace Brubaker, Roanoke
Dr. William Harvey Cabaniss, Jr., Athens, Ga.
Dr. Carmen Margarita Caceres, San Juan, Puerto Rico
Dr. James Monroe Carter, McKeesport, Pa.
Dr. George Edward Chappell, Richmond
Dr. Walter Scott Chisholm, Jr., Denver, Colo.
Dr. Kenneth Melvin Clements, Richmond
Dr. Alvin Cohen, Petersburg
Dr. William Patrick Coleman, Charlottesville
Dr. Alvin Eugene Conner, Manassas
Dr. Catherine Elizabeth Craun, Richmond
Dr. Pleasant Paul Deaton, San Antonio, Texas
Dr. Sterling Randolph Decker, Charlottesville
Dr. Robert Bailey Deitchman, Martinsville
Dr. Patrick Campbell Devine, Charlottesville
Dr. Ronald Burton Dietrick, Richmond
Dr. Mary Catherine Duckgeischel, Santa Clara, Cal.
Dr. Robert Kent Dyer, Roanoke
Dr. Walker Marshall East, Clifton Forge
Dr. Julia Emmett Edmunds, Charlottesville
Dr. Ernest Gray Edwards, Hampton
Dr. Cecil Franklin Evans, Jr., Richmond
Dr. Channing Lester Ewing, Pensacola, Florida
Dr. Hugh Lanier Farrior, Concord, N. C.
Dr. Morris Fine, Salt Lake City, Utah
Dr. William Latane Flanagan, Naval Base, S. C.
Dr. William Paul Fletcher, Portsmouth
Dr. James Stephenson Foster, Dante
Dr. Earl Russell Fox, Naruna
Dr. John Happer Furr, Washington, D. C.
Dr. James Harry Gamble, Charlottesville
Dr. Robert Daniel Gardner, Flemington, N. J.
Dr. Calvin Sampson Garrett, Norfolk
Dr. William Neville Gee, Jr., Norfolk
Dr. Frederick True Given, Jr., Chase City
Dr. Harvey Winfree Goode, Jr., Powhatan
Dr. Paul Wiley Gordon, Jr., Clifton
Dr. Julius Griffin, Los Angeles, Cal.
Dr. Douglas Meriwether Griggs, Jr., Charlottesville
Dr. Robert Burwell Groves, Jr., Galveston, Texas
Dr. Warren Cleaton Hagood, Norfolk
Dr. David Goodsell Hall, III, Charlottesville
Dr. Tibor Ham, Columbia, S. C.
Dr. Euclid M. Hanbury, Jr., Montreal, Canada
Dr. Edward Harrison Hancock, Jr., Charlottesville
Dr. Arthur Garner Harden, Virginia Beach
Dr. Charles Pinchbeck Harwood, Richmond
Dr. John Thomas Hearn, Jr., Fredericksburg
Dr. Ernest Conrad Hermann, Richmond
Dr. Jesse Robinson Hicks, Charlottesville
Dr. Royce Linton Holsey, Norfolk
Dr. Raymond Cottrell Hooker, Jr., Richmond
Dr. John Shelton Horsley, III, Richmond
Dr. Edward Claiborne Irby, Blackstone
Dr. Harry Isaac Johnson, Jr., Salem
Dr. John Walter Carlysle Johnson, Jr., Charlottesville
Dr. William Raymond Johnson, Jr., Mount Sidney
Dr. Robert Henry Jordan, Norfolk

Dr. Louis Eugene Jorel, Phoenixville, Pa.
Dr. Michael John Keith, Williamsburg
Dr. Verbon Eric Kemp, Jr., Richmond
Dr. Carl Peter Kremer, Jr., Rochester, N. Y.
Dr. David Benson Kruger, Charlottesville
Dr. Walter Fitch Manley, Jr., Roanoke
Dr. Moir Glenwood Martin, Hillsville
Dr. Philip Royden Mason, Richmond
Dr. George Bernard Massie, Pounding Mill
Dr. Arch Thomas McCoy, Richmond
Dr. Leroy Sutter McDaniel, Richmond
Dr. Thomas David McDonald, Roanoke
Dr. Wilmore Randolph McLeod, Glen Allen
Dr. Harvey Edward Melton, Springfield, Ohio
Dr. Fred Neal Mitchell, Charlottesville
Dr. Daniel Nathan Mohler, Jr., Charleston, W. Va.
Dr. Charles Hunter Montgomery, Charlottesville
Dr. Samuel Stuart Morrison, Springfield, Ohio
Dr. George Edward Mowry, Wicomico
Dr. John Girardwau Murray, Jr., Richmond
Dr. John Jennett Neal, Jr., Danville
Dr. James Linwood Odom, Norfolk
Dr. John A. Opal, Clintwood
Dr. Sheff Daniel Orlinger, Jr., R.F.D. 1, Coeburn
Dr. Ross Moore Orr, Jr., Columbus, Ohio
Dr. Patsy Ruth Phelps, Baltimore, Md.
Dr. Frank Wilson Price, Charlottesville
Dr. Jean Fensom Ragsdale, Richmond
Dr. Norman Clydlee Ratliffe, Richmond
Dr. John Rebman, III, Richmond
Dr. Arthur McKinley Reynolds, Jr., Portsmouth
Dr. Charles Wellington Richardson, St. Petersburg, Fla.
Dr. Malcolm Kauffman Rosenbaum, Washington, Pa.
Dr. Lawrence Charles Rosenberg, New York, N. Y.
Dr. Malcolm Lee Rosenblatt, Boston, Mass.
Dr. Frank Edward Rowell, Norfolk
Dr. George Straughan Schools, Richmond
Dr. William Allen Scoggin, Charlottesville
Dr. Pierre B. Scott, Seattle, Washington
Dr. George Oscar Shipp, Norfolk
Dr. John Calvin Shipper, Martinsburg, W. Va.
Dr. Bobby Long Smith, Raleigh, N. C.
Dr. James Roger Smith, Ashland
Dr. Richard Holloday Smith, Jr., Nashville, Tenn.
Dr. William Kyle Smith, Jr., Annapolis, Md.
Dr. Louis Max Sod, Norfolk
Dr. Alger Rixey Southall, Jr., Pamplin
Dr. Henry Sumpter Spencer, Richmond
Dr. Philip Martin Sprinkle, Seattle, Washington
Dr. Walter Jackson Stanford, St. Petersburg, Florida
Dr. Thomas Peirson Stratford, Richmond
Dr. Luther Marcus Talbert, Charlottesville
Dr. Paul Alexander Tanner, Jr., Quitman, Ga.
Dr. Terry Finley Tanner, Quitman, Ga.
Dr. William Burwell Tarry, Jr., Brookneal
Dr. Raymond Jay Thabet, Charleston, W. Va.
Dr. Charles Gerhard Thedieck, Jr., Suffolk
Dr. John Vernon Torbert, Jr., Chesapeake
Dr. Charles James Townsend, Springfield, Ohio
Dr. Robert William Trever, Arlington
Dr. Frederik Van Den Branden, Williamsburg
Dr. John Herndon Vansant, Charlottesville
Dr. Emery Mittchell Ward, Charlottesville
Dr. Robert Edward Ware, Worcester, Mass.
Dr. John William Watson, Philadelphia, Pa.
Dr. William Greene Way, Philadelphia, Pa.
Dr. Thomas Harry Webb, Portsmouth
Dr. James Hugh Wiley, Richmond
Dr. George Lee Wilkinson, South Boston
Dr. Samuel Nimrod Whitacre, Cincinnati, Ohio
Dr. Walter Raleigh Whitehurst, Jr., Baltimore, Md.
Dr. Woodrow Wilson Wren, Springfield, Ohio
Dr. Allan William Wright, Richmond

HOMEOPATHIC MEDICINE AND SURGERY

Dr. Edmundo Morales, Washington, D. C.

LICENSED TO PRACTICE MEDICINE AND SURGERY BY RECIPROCITY

Dr. Donald Carl Anderson, Pensacola, Fla.
Dr. Robert H. Armstrong, Annapolis, Md.
Dr. Thomas Marshall Arrington, Richmond
Dr. Herbert Mead Bowlby, Staunton
Dr. Bernard Bressler, Alexandria
Dr. Henry Thomas Brobst, Roanoke
Dr. Raymond Nathan Brown, Washington, D. C.
Dr. Robert Junius Brown, III, Winston-Salem, N. C.
Dr. Frank Brian Clare, Portsmouth
Dr. Moses Cohen, Queens County, N. Y.
Dr. George Henry Cook, Chincoteague
Dr. William Hurlbert Cooper, Washington, D. C.
Dr. Armando Ralph Coppola, Newport News
Dr. Francis Willson Daily, Roanoke
Dr. Charles R. Derrickson, Arlington
Dr. Thomas Isom Durm, Portsmouth
Dr. Norman E. Dyhrberg, Roanoke
Dr. Louis Zephirin Fauteux, Jr., Falls Church
Dr. Gerald J. Fisher, Arlington
Dr. Marion White Fisher, Sandston
Dr. Ann Conway Fred, Fort Lee
Dr. Lawrence Taylor Giles, Warrenton
Dr. Frederick Richard Gilmore, Durham, N. C.
Dr. Samuel J. Hall, Boston, Mass.
Dr. Brooks Lynn Hargrove, Jr., Portsmouth
Dr. Roy Belmont Hargrove, Jr., Farmville
Dr. Eugene Witter Higgins, Roanoke
Dr. Isham Earl Holmes, Staunton
Dr. Fritz Milton G. Holmstrom, Arlington
Dr. Wayne Stanford Hume, Fort Monroe
Dr. Charles Jared Ingersoll, Dahlgren
Dr. Charles Southward Ireland, Norfolk
Dr. Thomas Nelson Page Johns, Richmond
Dr. David Strand Johnsen, Washington, D. C.
Dr. Arthur Sanford Kaplan, Norfolk
Dr. Richard Eugene DeMorbrun Kepler, Honolulu, Hawaii
Dr. Michael F. Lapadula, Arlington
Dr. James John Lawson, Jr., Bayonne, N. J.
Dr. Carroll Hoyt Lippard, Lynchburg

Dr. Kurtland Herrick Lord, Richmond
Dr. Thomas Edward Manly, Paterson, N. J.
Dr. Walter Sidney Matthews, Jr., Falls Church
Dr. Charles Francis McCaffrey, Arlington
Dr. Kenneth Earl McIntyre, Marion
Dr. Willys Moore Monroe, Norfolk
Dr. Paul William Morgan, Waynesboro
Dr. Kenneth Newton Payne, Hampton
Dr. Irwin Elwood Phillips, Bristol, Tenn.
Dr. Douglas Theodore Prehn, Arlington
Dr. George Sylvester Price, Jr., Martinsville
Dr. Charles Danny Pruett, Bluefield, W. Va.
Dr. F. Turner Reuter, Washington, D. C.
Dr. William Davis Richards, Richmond
Dr. Henry Moore Rogers, Jr., Wilson, N. C.
Dr. Sidney Rosenbaum, Arlington
Dr. Arnold M. Salzberg, Richmond
Dr. Walter Wesley Sawyer, Jr., Norfolk
Dr. Howell H. Sherrod, Johnson City, Tenn.
Dr. Richard Harrison Small, Falls Church
Dr. James Joseph Thorpe, Falls Church
Dr. Walter Weddle Vaughan, Durham, N. C.
Dr. Earl Edward Walker, Jr., Richmond
Dr. Flotilla Watkins, Roanoke
Dr. Charles Richard Webb, Washington, D. C.
Dr. Louise Oftedal Wensel, Washington, D. C.
Dr. W. Leonard Weyl, Arlington
Dr. Gordon A. Zimmerman, Arlington

Eight others were licensed to practice osteopathy, chiropody, and chiropractic.

Medical Society of Northern Virginia.

At the regular meeting of this Society on August 11th, there were present twenty-five members and their wives. After a pleasant dinner meeting, the professional session was held and consisted of a lecture and a motion picture on the Medical Aspects of Civilian Defense, the speaker being Dr. W. R. Southward of the State Department of Health, Richmond. At a business session, five doctors were admitted to membership.

Dr. Elizabeth Sherman of Front Royal is president and Dr. William C. Humphries of Woodstock is secretary-treasurer.

Fairfax County Medical Society.

At a meeting of this Society held on September 8, the following officers were elected for the coming year: President, Dr. Claude Cooper, Annandale; vice-president, Dr. Paul Kemp, Falls Church; secretary, Dr. Robert Hunt, Falls Church; treasurer, Dr. Robert Rounds, Falls Church.

A committee has been appointed to make plans for the annual dinner dance to be held next month.

Alice H. Kiessling, M.D.,
Publicity Chairman.

NEWS

The Medical Society of Virginia

Is to hold its 106th annual meeting at Hotel Roanoke, Roanoke, October 18-21, under the presidency of Dr. James L. Hamner of Mannboro. The programs which are being mailed all members show that many papers on timely subjects are to be discussed. Round tables and panel discussions will be interesting features. On Tuesday evening will be the social hour, and banquet with entertainment. Arrangements have been provided for the pleasure of the ladies during and after the Auxiliary meetings. Excellent accommodations are to be had in Roanoke, and the meeting there promises to be a banner one as usual.

Southern Medical Association.

Coming within a week following the meeting of The Medical Society of Virginia will be the Southern Medical meeting in Atlanta, Georgia, October 26-29. This is always enjoyed by Southern doctors and their wives. The Municipal Auditorium will be general headquarters and is conveniently located within walking distance of all downtown hotels. Dr. Walter C. Jones of Miami, Florida, is this year's president. If rooms have not been reserved, get in touch at once with the Housing Bureau of the S.M.A., 801 Rhodes-Haverty Building, Atlanta 3, Georgia, for information, stating the type and price of accommodations desired.

News from University of Virginia School of Medicine.

The fall series of Monday Evening Medical Lectures will open October 5, with the following speakers: Dr. Louis G. Welt, Dr. William H. Sebrell, Jr., Dr. Carl V. Moore and Dr. Loyal Davis. The November speakers will likewise include a number of prominent out-of-State speakers.

Eight new members have been appointed to the University of Virginia School of Medicine faculty, Dean Thomas H. Hunter announced recently.

Dr. Oscar A. Thorup, Jr., a medical graduate of the University in 1946 and former chief resident in

internal medicine who has been serving during the past year as research fellow in internal medicine at the University of North Carolina, has been appointed Assistant to the Dean and Instructor in Internal Medicine.

New assistant professors include Dr. Julian R. Beckwith, a medical graduate of the University in 1936 and former chief of the Medical Service of the C. & O. Hospital in Clifton Forge, Va., to the Department of Internal Medicine; Dr. W. A. H. Councill, Jr., a medical graduate of the University in 1947, to the Department of Urology; and Dr. Eugene D. Brand, formerly of the University of Utah, to the Department of Pharmacology.

Newly appointed instructors are Dr. Warren Gregory, a medical graduate of the University in 1950, to the Department of Pediatrics; Dr. A. Alan Humphries, a graduate of Emory and Princeton universities, to the Department of Anatomy; and Dr. Leroy S. Pearce, a graduate of Vanderbilt University, to the Department of Pathology.

Dr. Francis H. McGovern, a graduate of the University of Pennsylvania who is engaged in private practice in Danville, Va., has been appointed Clinical Assistant Professor of Otolaryngology.

De Paul Hospital Expresses Appreciation of Dr. Martin.

De Paul Hospital, Norfolk, at a meeting in July 1953, adopted the following resolution honoring Dr. Walter B. Martin:

We wish to present a resolution to do honor to a member of our staff who has achieved great distinction,

WHEREAS, Dr. Walter B. Martin has been made President-Elect of the American Medical Association and has brought tremendous honor to himself, the Staff of De Paul Hospital, the City of Norfolk, and the State of Virginia, be it

RESOLVED, that the Staff of De Paul Hospital, wishing to acknowledge this honor, has prepared this Resolution and recommends that this Resolution be spread upon the minutes of the Staff of De Paul Hospital and a copy be sent to Dr. Walter B. Martin and to the Virginia Medical Monthly.

GEORGE W. SCHENCK, M.D., *Chairman*
JOHN W. OAST, M.D.

Credits to Be Given Air Force Reserve Officers.

Medical Service Officers of the Air Force Reserve who attend the Association of Military Surgeon's Annual Convention in Washington, D. C., November 9-11, 1953, will receive Reserve training credits consisting of one (1) point for each day's attendance. A representative of the Surgeon General's Office, Headquarters, USAF, will be present during the convention to certify attendance for each Medical Officer, Dental Officer, or Nurse claiming these training points. Officers must participate for a minimum of two hours each day. The maximum amount of credit that can be earned is three points.

"Air Force Reserve point credits are not normally awarded for attendance at associations, conventions, and sessions, but it is believed (by Headquarters) that this specific convention warrants points since the topics, lectures and exhibits will be of material training value to Medical Service Officers attending."

The Gill Memorial Hospital Spring Congress

Will be held in Roanoke, Virginia from April 5 through April 10, 1954. Among the guest speakers will be:

Dr. John Foster	Leeds 1, England
Dr. Edwin B. Dunphy	Boston, Mass.
Dr. Charles L. Schepens	Boston, Mass.
Dr. Harvey E. Thorpe	Pittsburgh, Pa.
Dr. Hayes Martin	New York, New York
Dr. Louis Clerf	Philadelphia, Pa.
Dr. Alson E. Braley	Iowa City, Iowa
Dr. Hyman S. Sugar	Detroit, Michigan
Dr. George Merriam, Jr.	New York, New York
Dr. Victor Goodhill	Los Angeles, Calif.
Dr. John McLean	New York, New York
Dr. John R. Richardson	Boston, Mass.
Dr. M. Elliott Randolph	Baltimore, Maryland
Dr. Edmund B. Spaeth	Philadelphia, Pa.
Dr. Winchell Craig	Rochester, Minnesota
Dr. George Murgatroyd	Baltimore, Maryland
Dr. Donald Proctor	Baltimore, Maryland

Southern Electroencephalographic Society.

The next annual meeting of this Society will be held in Atlanta, Georgia, October 28-29, 1953, at the Ansley Hotel. The Society will also meet jointly with the section of Neurology and Psychiatry of the Southern Medical Association.

Dr. Isadore Samuel Zfass, psychiatrist and neurologist of Richmond, was elected president of the Southern Electroencephalographic Society at its annual meeting held at Miami Beach, Florida. Dr. Zfass has been one of the pioneer electroencephalographers in the South, and is the only physician in Virginia who is certified by the American Board of Qualifications in Electroencephalography.

The Section on Clinical Cardiology

Of the American Heart Association will sponsor a two-day scientific program at the Conrad Hilton Hotel in Chicago on April 3 and 4, 1954. This program will constitute a portion of the Annual Meeting of the American Heart Association and immediately precedes the Annual Sessions of the American College of Physicians. The meeting will be open to all members of the medical profession. Dr. Wright R. Adams of Chicago is Chairman of the Program Committee. Members of the American Heart Association who wish to present papers should send a 250-300 word abstract of the proposed paper to Dr. Charles D. Marple, Medical Director, American Heart Association, Inc., 44 East 23rd Street, New York 10, New York. *All papers should be on subjects of distinct clinical interest. The deadline for the receipt of abstracts is January 1, 1954.*

Bought Any New Medical Books Lately?

Your older volumes would be gratefully received by the physicians, hospitals, and universities of Israel. Especially needed are books in all medical specialties.

If you can spare any of these books which are in good condition and published since 1940, please send them by prepaid parcel post to: Books for Israel, 115 King Street, New York 1, N. Y.

Note: Up to 70 lbs. may be sent by parcel post, at 8¢ for the first pound, and 4¢ each additional pound, marked "BOOK RATE." Please give return address of individual or organization, so that your gift may be acknowledged. Funds for shipment from New York to Israel have been provided under Point IV, U. S. State Department, sponsors of this project.

Dr. I. Floyd Nesbitt,

Obstetrician formerly of Newport News, has moved to Durham, North Carolina.

Dr. Thomas S. Ely,

Of Jonesville, was elected the new commander of the Virginia American Legion, at is meeting in Roanoke, the middle of August.

Dr. Carl I. Pirkle

Has been transferred from Lewisburg, Pennsylvania, to the U. S. Penitentiary, Atlanta, Georgia, as chief medical officer for that institution, effective September 1. Dr. Pirkle was for a number of years with a similar institution in Prince George, Virginia.

New Manager at McGuire VA Hospital, Richmond.

Dr. Glen W. Doolen, who has been connected with the Tuberculosis Division of the VA's central office in Washington, D. C., has been named manager of the Veterans Administration Hospital in Richmond, and entered upon his new duties the 1st of September. He took over the position formerly held by Dr. John G. Hood, who was transferred to become manager of the Bronx Veterans Administration Hospital in New York City.

Pan-American Academy of General Practice.

Through the courtesy of the Government of Colombia, expressly, the University of Antioquia (celebrating their 150th year of its foundation) and the Dean of the Medical School, the Pan-American Academy of General Practice, has been invited to hold its annual Congress in the city of Medellin, Colombia, S.A., February 15th to 20th, 1954. Following Medellin, there will be a visit to Bogota, Barranquilla and Montega Bay, Jamaica, the complete trip being from February 15th to the 28th. The Congress activities will be divided into sections, representing the various fields of Medicine, Surgery and Pharmacy.

Those participating in this trip will be declared Guests of Honor, and there will be extensive festivities for their benefit. It also offers an opportunity for a delightful holiday in glamorous, exotic and historic Colombia.

Transportation at a special all inclusive rate, via, plane or steamship, will be available to those participating. Registration must be made through Dr. Arturo Martinez, Secretary, 500 West End Avenue, New York, N. Y.

American College of Surgeons.

For the first time since 1914, when a Clinical Congress was held in London, England, that city will be host to a Sectional meeting of the American College on May 17 to 19, 1954. It is anticipated that more than 500 Surgeons from Canada and the United States will attend. The Royal College of Surgeons plans not only an imposing series of lectures but also some receptions to which the visiting surgeons are cordially invited.

Clinical Seminar.

The Bluefield Sanitarium, Bluefield, West Virginia, is holding its first annual clinical seminar in

the staff room of the Sanitarium, October 2, at 2:00 p.m. A varied program will be presented by the staff members. Dr. George T. Harrell, Jr., Professor of Medicine at the Bowman-Gray Medical School, Winston-Salem, North Carolina, will be the guest speaker at the banquet to be held that evening at the Bluefield Country Club. His topic will be "Myxedema".

Trudeau Sanatorium,

Trudeau, New York, announces that it will mail a pamphlet to physicians east of the Mississippi interested in diseases of the chest, to bring them up-to-date on the Sanatorium, which celebrates his seventieth anniversary next year. Copies of the pamphlet are available by writing Dr. Roger S. Mitchell, Clinical Director, Trudeau Sanatorium, Trudeau, N. Y.

Wanted:

Physician for the Staff of the DeJarnette State Sanatorium, Staunton, Virginia. This is a psychiatric hospital of approximately 180-bed capacity. Starting salary $8,400.00 to $8,784.00. Apply to the Superintendent. (Adv.)

For Sale.

Retiring physician's home and equipped rented office in Cape Charles, Virginia. Address P. O. Box 304, that town (*Adv.*)

For Rent—

Four-room medical suite, excellent location, with waiting room, fluoroscope, laboratory and physiotherapy to share. Parking space and all utilities provided. Also complete 2 chair dental suite.

Apply to R. G. McAllister, M. D., 1016 W. Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted:

1. A physician for contract practice in coal camp;
2. A physician for private hospital, preferably internal medicine.

Address Dr. W. C. Elliott, Lebanon General Hospital, Lebanon, Virginia. (*Adv.*)

OBITUARIES

Dr. Oscar Raymond Yates,

Suffolk, died July 15 in Obici Hospital, Suffolk, after a six weeks illness from coronary occlusion and myocardial failure. He graduated from the Medical College of Virginia in 1916, and had practiced in Suffolk since, with the exception of military service during World War I.

He was very active in civic, fraternal, and church activities, and among other recognitions for his community services, he was the recipient of the Silver Beaver award for outstanding work with the Boy Scouts, and was given a special citation by the Lions Club for performing without charge a large number of tonsillectomies for underpriviledged children. At the time of his death he was president of the Obici Hospital medical staff. He is survived by his wife, a daughter and a son.

Dr. Robert Dennis Caldwell,

Widely known pathologist of Lynchburg, died August 18, at his home, after an extended illness. He was 57 years of age and graduated from the Medical College of Virginia in 1919. He served at hospitals in Richmond for a year before locating in Lynchburg where he had since made his home. His wife and several brothers and sisters survive him. Dr. Caldwell was a member of his local, State and several other societies, including the American Medical Association. Burial was in Lewisburg, W. Va.

Dr. William F. Mercer,

Richmond, a graduate of the Medical College of Virginia in 1882, and said to be its oldest graduate, died at his home in this city, September 4, at the age of 91. He had been in bad health for sometime and had retired from practice some years ago. He was a prominent ophthalmologist for many years and was formerly a member of many societies connected with his specialty. A daughter survives him.

Dr. Alexander G. Brown, Jr.

As we go to press, we learn with sorrow of the death of Dr. Brown who, as chairman of the Publication Committee of The Medical Society of Virginia, became editor of the VIRGINIA MEDICAL MONTHLY in April 1919 and served in this office most efficiently until October 1933 when he asked to be relieved of this position because of pressure of other duties.

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ATLANTA, OCT. 26·27·28·29

For the fourth time in its history, the Southern Medical Association will meet in Atlanta, Georgia.

Physicians of the South are urged to mark the dates of this meeting on their calendars and make every effort to attend this outstanding meeting of the year.

In addition to the forty-seven half-day section meetings covering every aspect of the medical practice, there will be a general session, conjoint meetings, many social activities, and fraternal and alumni gatherings—a complete general medical meeting, with all scientific activities under one roof, the Atlanta Municipal Auditorium.

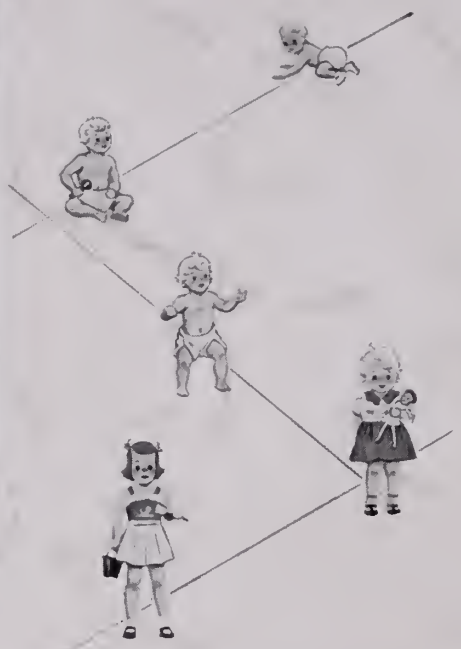
Hotel accommodations for this meeting may be secured by writing: Housing Bureau, Southern Medical Association, 801 Rhodes-Haverty Building, Atlanta, Georgia, giving hotel preference, type of accommodations desired, date and hour of arrival and departure, name and address.

While membership in the Association is not a requirement for attendance at the annual meeting, it affords many advantages, among which is the Southern Medical Journal, one of the leading medical publications of today. Membership dues including the Journal are only $10.00 per year. There is no registration fee at the annual meeting.

Members of state and county medical societies eligible for membership are invited to become members of the Association and attend the Atlanta Meeting, which promises to be one of the most successful meetings ever held by the Southern Medical Association.

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VIRGINIA MEDICAL MONTHLY

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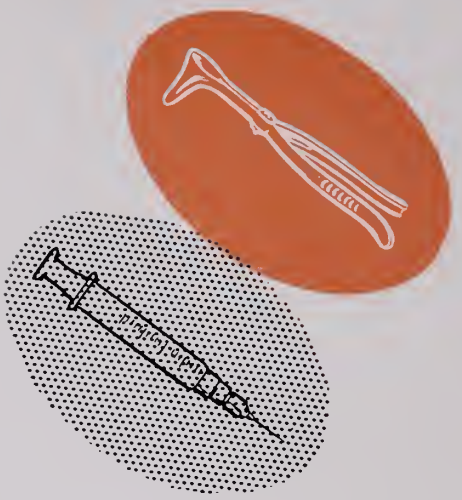
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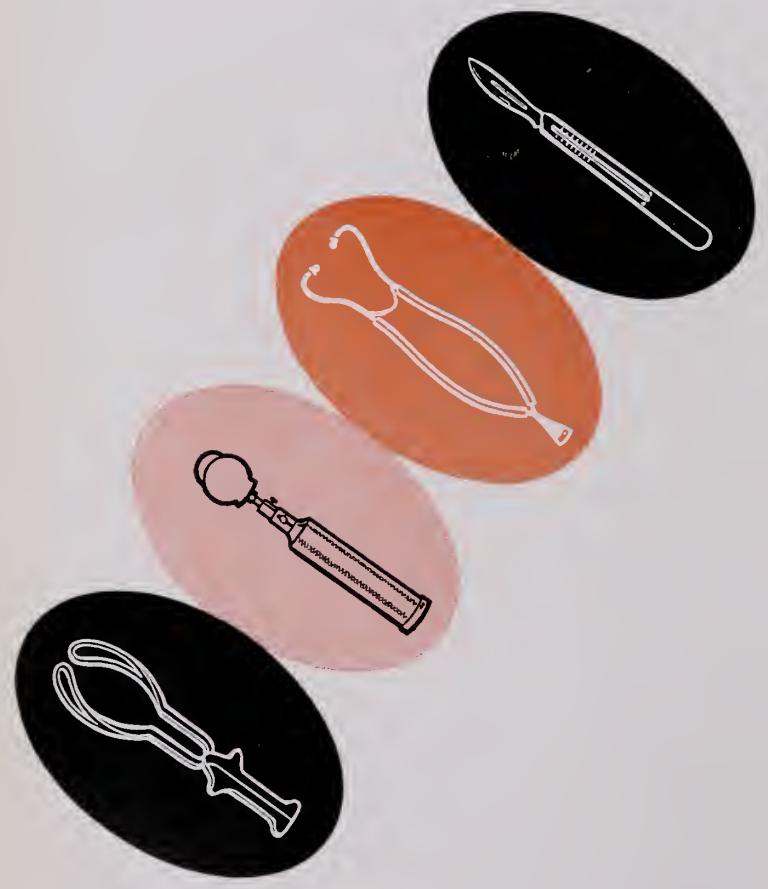
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In Memoriam

ALEXANDER GUSTAVUS BROWN, JR.
1873-1953

Editor of the Virginia Medical Monthly
1918-1933



He was a gentleman of the old school, a loyal friend, a skilled and trusted physician, a man of catholic interests and kindly spirit.

THE OBLIGATIONS, RESPONSIBILITIES, AND THE RIGHTS OF THE PHYSICIAN*

JAMES L. HAMNER, M.D.,
Mannboro, Virginia

Medicine, as the science and art of preventing, curing, or alleviating disease is an old, an honored, and a great profession. This greatness is the accumulated essence of good which has predominated the bad through the ages. Much of this came through the high motives which have actuated the profession since the days of Hippocrates. In Babylon, two thousand years before Christ, the practice of medicine was regulated in detail by code of law and influenced by the code of medical ethics of that day. There has been so much good, as well as so many inconsistencies, in the profession of all periods that it is difficult to say in which period the profession has been greatest. It should suffice to say that a great desire to render efficient service, and a high regard for honesty and integrity have always been evidenced in the profession everywhere. Where else can one find such devotion to duty and responsibility as in the profession of medicine? In the records of no other group is there to be found so large a number of men and women who have combined intellectual preeminence with nobility of character for the training of its members for service to humanity.

The physician's obligations to medicine begin when he enters medical school and has the use of facilities, and access to the mass of information needed for his education. This debt is twenty-five hundred years or more of medical knowledge, which he receives for the asking, and absorbs through hard study, at a cost of little more than personal time and effort. When he receives his degree in medicine and begins his professional life, he is proclaimed to the world as being capable of intelligently practicing his profession, and as being worthy of public confidence. He then becomes the key factor in making modern medicine available to all people.

Because of the high standard set by his predecessors, and the high plane of medical practice maintained by them throughout the years, with the tradition of honesty and decency in private and public life and the record of devotion to service to humanity, the physician receives a great heritage from which he must sense a great challenge. If he can successfully meet this, he soon becomes a respected figure in his community and may become a leader in civic, religious and political affairs, and a great influence in moulding community thinking. He is privileged to study and to treat the ills of mankind, real and imaginary, great and small. He becomes a trusted confidant, and, at times, as close to his patient as does the minister.

The physician's debt to medicine can never be paid in full. Each one of us has received more from this, the oldest and noblest of professions, than the longest life can repay. From those who have received so much, much is expected. Even though it has been given willingly, freely, and without binding or difficult demands for repayment, we are duty bound to repay to the best of our ability, not primarily in coin, but in respect, a sense of appreciation, and in the type of service which will always honor the profession. The greater the gifts we have received, and the greater the opportunities of developing them, the greater are our privileges and obligations.

We must never lose sight of these obligations if we would save our privileges. The fulfilment of such obligations, and the privileges which they have given, demand of us great responsibility, the requirements of which only those of great integrity can fulfill. We can repay the profession in kind, and only in kind. We must show our gratitude by trying, sincerely, to balance the account. This can be done only if we strive always to better the quality of the medical services we render and to make ourselves better and more useful citizens. We owe this to our forbears in medicine. These are our obligations. They have brought many privileges which carry great responsibilities.

The responsibilities of the physician are many and demanding. It would be difficult to list them in order of their importance and too time consuming to consider all of them.

Surely, the physician's primary responsibility has always been and must continue to be, to his patients, particularly those who are suffering or in distress. He must not only give them prompt attention, but he

*Address of the President before The Medical Society of Virginia, meeting at Roanoke, October 18-21, 1953.

must give the very best his training, ability and judgment can offer toward meeting and solving their problems, immediate and remote. To them, he must give time, patience and undivided attention. He must take time to hear their stories and to explore their diagnostic and therapeutic possibilities thoroughly. He may not think it wise to tell them everything he suspects regarding their disabilities, but they are entitled to know the general nature of their troubles and their treatment. Nothing takes the place of friendly and genuine interest in the patient and his problems. Consider him as a person, as a family member, and as a member of his community. Let him know that you see under his mask, a man, a human being, who needs your care and that you will continue, to the very best of your ability, this interest and care as long as he needs it. Few physicians have ever forgotten this, or have forgotten that all else is secondary. For this reason, alone, the profession has risen to and held its high position in the hearts and esteem of the people. We must see that this is always true.

The physician must not forget his responsibility to his family and to himself. He must not only keep himself professionally proficient, but he must live in moderation and preserve his physical and mental energy just as he urges his patients to do. He owes it to his family to spend some time with them and to utilize cultural and spiritual resources offered them by wholesome recreation, reading, home life, social and spiritual activities. It is his responsibility to himself, as well as to his patients, to keep his skill at its peak. He must do this by keeping up with the newest developments in diagnosis and treatment of disease by the regular reading of medical journals and books, and by attending medical meetings and participating in post-graduate educational programs. The progressive physician never gets through with his education. There is always something new and better.

The first responsibility of a physician to other physicians is to be a good, ethical physician. He must comply with the laws and respect his and their permission to practice their profession. If he is capable, honest, decent, courageous, vigilant and a follower of the Golden Rule, his life will be the best exemplification of the ethical principles which should always guide his conduct with his fellow physicians. With them, he should contribute to medical knowledge by exchanging the knowledge they have gained by study and hard work. One of the shining examples of greatness in the profession of medicine is the spirit of sharing with others in the profession every bit of knowledge which has been found useful and beneficial. A medical discovery is for the whole world, which is now profiting by discoveries made by doctors and their co-laborers of many nations. The physician must be interested in maintaining and improving the standards of pre-medical and medical education and medical care. He must also interest himself in the welfare of the newly trained physician by guiding, helping and encouraging him always, and by trying to inculcate in him the traditions of medicine and medical ethics. He must also solicit his aid in maintaining the high standards of medicine and in making his contribution toward the improvement of the world in which we live.

Every physician should affiliate with medical societies and should join his associates in giving time and energy to the advancement of his profession. Only by active participation of all members can medical societies be kept strong, democratic and be able to do for its members what they cannot do for themselves. Progress can be made only through the efforts of strong societies in which all members work together. Where such societies are absent, or weak, there exists low standards of medical education and care. Not only are medical societies largely responsible for the high standard of medical service rendered by individual physicians, but the high opinion in which the profession is held by the public is due, in a large measure, to the whole hearted manner in which most physicians have conducted their professional lives in accordance with the accepted principles of medical ethics, as set by their medical societies. These are not laws to govern but are principles to guide to correct conduct. They were set down primarily for the good of the public, but, as a guide for the physician, they should be observed in such manner as shall merit and receive the endorsement of the community.

Doctors are human, however, and unfortunately there are a few renegades among them just as there are in all professions and in all walks of life. Just as any community of two hundred thousand must have some bad, there are a few to be found among the two hundred thousand physicians in this country who deviate from the practices which are vital to our profession. Every physican should remember that to accept by silence, where one should protest,

makes cowards of men, and he should expose without fear or favor, incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession. He should, also, support his society in seeing that these people turn from their waywardness or get out of medicine. Too, when the society adopts a policy, the physician must interpret it to his patients. Unless they understand the society's viewpoint, they cannot be expected to wholly support it. No one can do so much for improved patient-physician relationship as can the patient's own physician whose affection for and service to his patients can make them loyal supporters.

The medical profession has been careless in its responsibility to our medical schools, this, to the extent that the schools, oft-times, are found in financial distress. We must correct this by contributing to the American Medical Education Fund which was originated and is functioning for the purpose of giving the schools financial aid and helping to make them self-sustaining. This is essential if our schools are going to render the service they should and be kept from political control, which would most assuredly lower educational standards and restrict freedom of scientific research.

As students of medicine and practicing physicians, we have the same rights and duties as other citizens. We like to place emphasis on the physician as a citizen. His position in the community makes him an important figure in the civic, fraternal, social, religious and political activities about him. It is most important to himself, and to his profession, as well as to his neighbors, that he lend a helping hand and share fully in all worthwhile community activities when needed. There are also certain professional responsibilities which he owes his nation, his state and his community. Love of our country and profession imply service. We must willingly serve in the armed forces of our nation when needed. Regardless of the hardships, we must not complain when the young men and women serving the nation need our care. It is equally important that those of use who cannot serve actively in the armed forces should serve in any of the auxiliary services, and in any capacity, where needed. We should work for closer integration of civilian and military medicine. I should like to see the profession work with the military services, on a voluntary basis, in the examination of veterans for disability, also in the re-evaluation of physical disabilities for which so many veterans are pensioned. None of us wants to keep the veteran who has service connected disability from getting all the hospitalization he needs and all the pension he is entitled to. It does seem, however, that those who can pay for treatment of non-service disability should do so. It is evident, too, that many veterans are drawing full pensions while doing full time and highly remunerative work since leaving the service. The type of pensioner should have his status re-evaluated and changed, should he not need such help. The public can, by demanding such service, help us to serve them better, and we can serve our country better by voluntarily rendering such aid. It is equally as important that no needy veteran, with service connected disability, should ever need hospitalization or pension and not get it.

The physician's responsibilities to the state have greatly increased as greater progress has been made in preventive and curative medicine. He should support the many new agencies and efforts which have brought this about. He should work to extend public health coverage to all people, and should cooperate with this great branch of the profession in every way possible.

He should support the Virginia Council on Health and Medical Care in its programs for improving the facilities for caring for the ill and for improving general health conditions throughout the state. The Council's Physician Placement Program is particularly noteworthy in that it has placed so many physicians in rural areas and small towns where needed.

It is equally important that the many organizations which are working for improved health and better living conditions, by trying to prevent as well as to fight disease, should have our wholehearted and sympathetic support.

With so many people of advanced age, the problems in chronic and degenerative disease have multiplied. The physician must accept leadership in formulating plans for the care of this large and growing segment of the population. This is equally true of the crippled and handicapped of all ages.

Medical care of the indigent is always a great responsibility. In some places this is satisfactory. It should be everywhere. It is unfair to the physicians to have to shoulder all the cost of this care; yet, for the most part, they have done so without complaint. Good medical service, with free choice of the physician, should be provided for these people,

and paid for at a reduced cost. This might be provided by the Welfare Department of the State, the Community Chest, or other like agencies by outright grants or by the purchase of pre-payment insurance for that purpose. Unless, or until, such provision has been made, no physician should ever refuse to furnish emergency medical care because of the patient's inability to pay. Our traditions, and our public relations, demand that we give some service for the privilege of being helpful to our fellow man. We must not think more of our fatigue and discomfort than about the cure of illness about us. Nor must we expect pay for every effort in behalf of the people. We should not expect full pay at anytime. This is an art and a service which must be given cheerfully and in excess of monetary gain.

The responsibility of medical care, however, is reciprocal. The patient should strive to save to pay for his medical services as he does for radios, refrigerators, television sets or for new automobiles. Fortunately, he can do this by buying voluntary health insurance. Although about 86,000,000 people carry some type of pre-payment insurance, much more extensive coverage is needed. The physician must encourage as nearly full coverage as possible.

Preventing disease and caring for the sick is not the whole job. Rehabilitation is coming into its own and must have the support of the physician in every phase. The state will have to pay for the hospitalization of many of these people, but it does seem that the profession should arrange to do most of the medical work for the privilege of intern, residency and post-graduate training. We must not let the public lose confidence in us or doubt our desire to serve humanity. This confidence can be our greatest asset, and can do much to secure our rights and increase our rewards.

All people are entitled, by nature, to certain rights. The physician's obligations and responsibilities make him jealous of his privilege to study and practice his profession in a free and untrammelled manner. He feels that the practice of medicine should never be the function of government, that it has no business in the field of medical care and should never come between the physician and his patient.

There is opposition, on the part of some, to the kind of medical care they get and the cost of it, even though this cost has not increased as have other costs. Insidious encroachment of government into medicine, with its interference in the voluntary way of medical practice, must not be met with impulsive opposition. We must be vigilant and we must combat this with soul-searching tolerance and leadership, if we are to guide the public health against those who are willing to trade the best medical care and health on earth for the uncertainties of socialism. The physician feels it his right, privilege and duty to oppose such encroachment of the freedom of his profession. In doing so, however, he must not fail to show the public that their interests come first. The physician has a right to expect considerate treatment at the hands of his patients. They should choose the physician they want, before they need him, let him know their wishes and find out about his hours and daily routine so they can go to his office when able to do so. If they cannot do this, they should call him as early in the day as possible so he can arrange his home and hospital calls to the best advantage of all concerned. They should give him reasonable time to take care of them. Too, other patients have some claim on his time. Urgent calling, when no emergency exists, may keep the physician from some friend whose need is urgent. Unless urgent, it is hardly fair to expect the family physician to never have any time off. He is mortal, too, and certainly needs time off for his meals, sleep, recreation and rest. When tired and exhausted, he cannot do his best.

It may appear, from the responsibilities cited, the physician should serve without thinking of a fee, and the average student may go into medicine because he wants to be a humanitarian, but it does not take him long to find out that he has to make a living. A good doctor wants to help as many people in his community as he can. He cannot do this if his patients do not trust his professional ability and respect his financial arrangements. No physician should aspire to become wealthy through the care of the sick. However, in order to repay the cost of his medical education, in order to maintain a modern, scientifically equipped office, and in order to discharge the proper obligations of good citizenship, the physician must charge and collect fees for his services. Too, it is a natural desire that every man should wish to marry, to have a family and set aside something for his old age. There will naturally be some variation of fees among individual physicians. They should all strive, however, to render the best service possible and to keep the charges within moderate range. They should always

be glad to discuss fees and other costs with the patient. Probably the three chief sources of anxiety with patients are whether or not they will get well, how long it will take, and how much the cost will be. A frank discussion of all of these will be satisfying to the patient and will bring much good will to the physician.

Our obligations, we should proudly acknowledge and should strive earnestly to pay; our responsibilities, we should assume and sincerely try to fulfill; our rights, we hope to gain, deserve, and preserve. All make the physician's life active, full and useful even though hard and trying at times.

The reward is well worth the effort. It is a life filled with satisfaction of service to humanity, service that is an essential, honorable, and an honored livelihood; it is a prominent and esteemed position in society; and it is the gratitude, friendship, and prayers of many patients. Money will most likely be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers and gratitude will be that of the poor.

Medicine knows no race, creed or color, but only the sacredness of human life. May it always be the servant of all, but the hireling of none. Greatness of the profession will remain as long as we look at the ills of man through the clear light of service and not through the colored glasses of wealth and selfishness.

I believe that no profession offers better opportunity for growth in moral and ethical stature, for contribution to the welfare of society, and for the relief of individual human suffering. I believe that no profession permits the practitioner to approach so closely the goals of kindness, loyalty, devotion and consecration as does medicine.

We are the most favored of all in the scope of human endeavor. If you find, as you must, flaws in the wide surface of the portrait that represents us, I believe them to constitute only a challenge to us to strive more diligently toward perfection. Remember, it is always the duty of the physician to help cure when possible, to relieve often, and to comfort and support always, ever bearing in mind the fact that we treat the patients, God cures them.

Transistors Reduce Hearing Aid Operational Costs 80 Per Cent.

Transistors, a new substitute for the vacuum tube in hearing aids, may save users of such devices as much as 80 per cent in operational costs, according to a report by the Council on Physical Medicine and Rehabilitation of the American Medical Association. (Oct. 3, J.A.M.A.)

This states that all-transistor hearing aids need only one battery instead of the two necessary for the operation of standard types, thus eliminating high battery replacement costs. A recent development in the electronic field, the transistor has been under study and experimentation for several years, and has been used in hearing aids only for a few months.

"The most important advantage of the transistor hearing aid that can be claimed at the present time is a significant reduction in operational costs, as much as 80 per cent and perhaps more."

At the present time it appears that no significant change will take place in the size or weight of transistor hearing aids as the battery space is filled with other components of the transistor circuit that are needed for its operation. The new type hearing aid also does not appear to have any significant improvement in amplification, in tone quality, or in fidelity over the other kinds. Although transistor hearing aids offer promise, "it is reasonable to expect that many deficiencies and shortcomings in performance will be encountered," the report pointed out. Therefore, it was recommended that purchasers of the instrument insist on a guarantee that the hearing aid will be maintained in top condition for at least one year and that all defective transistors will be replaced without cost.

THE VIRGINIA STATE HEALTH DEPARTMENT LEGISLATIVE PROGRAM FOR THE ERADICATION OF TUBERCULOSIS

Mack I. Shanholtz, M.D., *Commissioner,*
and
William F. Wagner, M.D., *Director,*
Division of Tuberculosis Control,
Virginia State Department of Health,
Richmond, Virginia

It is the conviction of the Virginia State Health Department, widely shared, that private physicians, as individuals and as groups, as general practitioners, internists and chest specialists, have most important and active professional parts to play in manning the battle stations, if an all-out state-wide objective to eliminate tuberculosis as a serious public health problem within the next decade, is to be realistically served.

A discussion, under title of "The Role of the Private Physician in a Tuberculosis Eradication Program", has been prepared by the State Health Department for your consideration; copies are available at the registration desk and at the door.

In the discussion are summarized many reasons why it is felt to be most timely for physicians as a whole to take a "New Look" at tuberculosis. A realistic analysis of the shortcomings of the past, less often medical than otherwise, and mostly correctable, added to the promise of a future brightened by fullest possible exploitation of new methods of wide-scale case-finding, newly devised surgical operations, new specific medicinal aids—all combine to invite a new optimistic outlook or approach to the whole subject of tuberculosis, *provided* medical and public interest can be engendered to a point where they will, respectively, support the enhanced professional participation, and the appropriation of additional funds needed, to provide the facilities and services required to do a job.

General practitioners and internists must be persuaded if possible to regard—we *hope* they will eagerly accept as practical and feasible—the role to which they have been assigned by the State Health Department, as king-pins in our Tuberculosis Eradication Program, given the necessary supportive services.

10,000 active cases of pulmonary tuberculosis are thought to exist in Virginia alone, most of whom await identification in a presently comparatively innocuous stage. As it becomes generally known that diagnosis of active tuberculosis no longer implies categorical need for hospital care, either for the patient's sake or to protect others, the public will be even more eager to participate *en masse* in community x-ray surveys. Many private physicians will be called upon to help meet this community problem. They can't all be "consultants."

Completion of diagnostic studies for tuberculosis is neither mysterious nor complicated when carried out according to protocol.

Repeated visits to a doctor's office may be required for months—but this is no more than is regularly accorded the prenatal case, as her due!

It is no more necessary for a general practitioner to be able to interpret a chest x-ray with any degree of finality than it is for a chest specialist to personally perform his own sputum examination if he has a certified laboratory to do it for him.

It takes less skill to do a tuberculin test or collect a gastric lavage specimen than it does to deliver a baby.

By and large, treatment of run-of-the-mill tuberculosis is simple; the real problem is treating the people who have it, their friends and relatives. The Health Department can help in these fields.

Specific drug therapy must not be looked upon as a substitute for sanatorium care, where the latter is indicated. Unless a physician is prepared, *as of now,* to treat tuberculosis *without* the newer drugs, he should not attempt to treat tuberculosis by simple resort to them.

Some general practitioners will be surprised, it is hoped all will be pleased, to learn that not only diagnosis, but treatment of the average case of pulmonary tuberculosis, *as found today,* requires no more, *if as much,* training and skill, as they must apply daily in their management of many other types of disease.

There should be no class of patients who will pay better, take less of the doctor's time, give him greater personal and professional satisfaction, than should

*Read before the annual meeting of The Medical Society of Virginia at Roanoke, October 18-21, 1953.

the average tuberculosis patient of the next 10 years, who will appreciate *relatively* inexpensive medical supervision by his own family physician whose function it will be to make as nearly unlikely as possible his ever having to quit his job to go to a sanatorium, through effective application of appropriate treatment obtained in his own community.

May we again commend to you the more complete elaboration of these points to be found in the paper prepared by the State Health Department to which reference has previously been made.

Many of you have already read or heard of the "Study of Tuberculosis in Virginia—1952", jointly sponsored by the Virginia State Health Department and the Virginia Tuberculosis Association, conducted by a nationally recognized authority referred by the American Public Health Association. The Director of the survey was assisted by a staff of experts from the Public Health Service, and from the National Tuberculosis Association, thus assuring additional objectivity.

Remaining remarks in this paper will be addressed primarily to two groups of recommendations emanating from the aforementioned report, (1) the provision of more sanatorium beds, and (2) the setting up of Regional Chest Clinics throughout the State.

Let us consider first the recommendation for more sanatorium beds, generally conceded to be the greatest single need in our Tuberculosis Eradication Program.

This need is acute for Negroes where a perennial waiting list, constantly growing, of more than two hundred and fifty, makes necessary delays from six to nine months before admission. Former patients who "relapse" can almost never be readmitted. When one considers the comparatively rapid course of the disease in many Negroes, plus average home conditions, the situation, as viewed in the light of modern times, becomes truly intolerable.

Additional surgical and sanatorium facilities are needed for white patients, as well.

The "Tuberculosis Study—1952" estimated a possible eventual need for 1400 additional sanatorium beds to round out and complete this facet of our long range Tuberculosis Program.

The State Board of Health, meeting May 12, 1953, recommended the following sanatorium construction during the next four years:

For the first biennium:

1. That 200 sanatorium beds for Negroes be added to the 50 bed surgical-diagnostic-teaching unit already under construction in Richmond.
2. That the equivalent of 50 beds for surgical treatment of tuberculosis be provided as part of the University Hospital at Charlottesville. These would serve primarily patients from Catawba and Blue Ridge.
3. That 150 beds be added to Blue Ridge Sanatorium. These would complete the original planned expansion, for which funds were appropriated immediately prior to and including 1948, but which, in the light of rising costs, etc., proved insufficient for this final wing. Addition of this wing to the present main hospital unit would be relatively in-expensive, because expansions of basic utility resources in the sanatorium during the past several years, were made with this wing also in mind; as a matter of fact, major conduits lead right up to the point where the proposed unit would connect with the main building.

In addition, $5,000.00 has more recently been recommended by the Board to study "the necessity and feasibility of constructing a 400 bed sanatorium in the Tidewater area".

For the second biennium:

The "Tuberculosis Study—1952" report states that *ideally* no new institutions should be built in Virginia; that is to say, beds should be added to the four existing (or planned for) state sanatoria.

However, inasmuch as Catawba and Piedmont are not as close to Medical Centers as changing trends in tuberculosis treatment now indicate they should be, *ideally,* it was recommended by the Study Group that a 400-bed state sanatorium be constructed in the Tidewater area. The recommendation was formally approved by the State Board of Health as a project for the second biennium, *provided,* a suitable site could be agreed upon well in advance, where the unit could become a part of a recognized medical center, similar to the arrangement envisaged for Richmond. This sanatorium would house both white and Negro patients.

It is vital to an effective Tuberculosis Control Program to have sanatorium beds sufficient to meet

the needs of patients who require hospitalization, particularly in this new era of surgery and specific drug therapy. The present dearth of such facilities is proving increasingly demoralizing to physicians, patients, public health workers and public alike, as the aims and *possibilities* of a total tuberculosis eradication program gradually become more widely understood and appreciated.

Enactment and enforcement of simple quarantine laws must be delayed until there are enough hospital beds to take care, as well, of cases who *also* pose serious public health problems, but who are eager to accept hospitalization. As of now, only the flagrant and wilful violators of the most elementary laws of hygiene and decency are isolated by court order. These are sent to prison not because they are innocent victims of tuberculosis in a heavily communicable stage, as some would have you believe, but because, having tuberculosis in a heavily communicable stage, they *also, insist* upon "spitting in your face", so to speak; they are sentenced for the *latter* offense!

Ordinary quarantine cases are not criminals, in *any* sense—they merely need a little boost to get them into a sanatorium, where, in the experience of one of us in another state, they can be handled very well, right along with other patients. Of course, there must be a place where they know they can, as individuals, be incarcerated, temporarily at least, if they get restless or *won't* behave.

It is the conviction of the State Health Department that all but a very small residue of those recommended for sanatorium care can be influenced by education or public opinion to accept placement, without resort to quarantine.

The second set of recommendations made by the Tuberculosis Study Group confirms and urges immediate adoption of plans for the establishment of Regional Chest Clinics, plans long considered by the State Health Department to be vitally important to a well balanced tuberculosis program. Accordingly, several hundred thousand dollars will be requested of the next Assembly by the State Health Department to establish some eighteen of these clinics throughout the Commonwealth to provide diagnostic and treatment facilities in areas where none or few now exist. They are to be conducted weekly or bi-weekly by one or more *local* physicians approved by their own local Medical Society, and will be under the general supervision of a chest specialist from a neighboring sanatorium or Medical Center who will visit each clinic regularly and be on call.

Complete medical supervision will be rendered the indigent, upon request of his doctor; x-ray, laboratory, and consultation service will be available to the semi- or "medically" indigent patient referred by his attending physician. All findings and recommendations in the latter instance will be made direct to the attending physician, who thus retains full control of his patient. Where corresponding facilities are not otherwise available, clinic services also can be utilized by any local doctor for his more well-to-do patients. Where adequate facilities and professional services can be procured privately, however, the physician will be requested not to refer to the clinic those able to pay.

Assurance would thus be given that completely met would be the needs of those who are suspected of having the disease, those whose conditions permit from the beginning successful treatment outside a sanatorium, and the large number who today are *customarily* discharged from sanatoria with *active* tuberculosis, not only in Virginia, but in other states, particularly where an acute shortage of beds exists. By relieving sanatoria of those no longer in need of sanatorium care *as such,* badly needed beds are made available for new applicants. However, on the other hand, it would be very expensive, not to say impractical, to attempt to keep *all* patients in sanatoria until they were no longer in need of *any* treatment.

These routine dischargees would, therefore, from the very beginning, in Virginia, constitute a large group of patients who would very definitely benefit from Regional Chest Clinics. May I elaborate briefly.

For years, many *needless* "relapses" have been reported and continue to occur because patients who have earned a right, *in* a sanatorium, to anticipate, *following* discharge, regular increments of physical exercise and permission to indulge in other types of exertion involving expenditure of energy, are not as carefully supervised as they should be by a physician during this latter period, to make sure that these increments are appropriate and properly spaced. The sanatorium is too far away for frequent check-ups; the local physician too often lacks the supportive services, physical and/or consultative, that he needs to provide the meticulous supervision required.

Vocational rehabilitation personnel from the De-

partment of Education are continuously dependent upon sound current medical advice as to the clinical status of their charges, some of whom are engaged in, others of whom may be contemplating, preliminary vocational rehabilitation projects. Rehabilitation personnel do not always receive the type of clinical evaluation upon which success of their program ultimately depends.

Close supervision during this very critical post-sanatorium period is necessary for *all* dischargees to make sure that at no time during successive increments of leisure placed at their disposal do they exceed or "cancel out" the benefits of concomitantly reduced (or residual) periods of systemic rest, upon which they must depend to complete the cure of the low-grade, often asymptomatic, perhaps wholly subclinical, but nevertheless *active,* disease they had at time of discharge. In other words, they are still *patients,* in every sense of the word—requiring varying types and degress of formal treatment for varying periods of time.

Naturally, therefore, sanatorium dischargees, even when known to be in need ultimately of vocational training, are seldom suitable for direct transfer to a full-blown rehabilitation center, such as Woodrow Wilson. Whether they will *ever* qualify for a full time rehabilitation course, will, like the ultimate recovery of other patients, depend entirely upon what happens to them after they return home.

Full-blown institutionalization, for the purpose of providing what today constitutes a major segment of "post-sanatorium" care, has not been practiced widely enough, for its practical benefits, in relation to costs, to have been definitely established. Not until the alternative less costly method of caring for these patients in their respective communities has been exploited, through full use of Regional Chest Clinics by a thoroughly alerted profession, will it be possible to estimate with any degree of accuracy the number of sanatorium or other institutional beds that may eventually be needed to successfully cope with those who cannot be satisfactorily cared for locally during this period.

Similarly, in this way only can be determined precisely how many newly diagnosed active cases of tuberculosis will actually need immediate or *eventual* hospitalization. We submit it would be inhumane, even more than expensive, to continue indefinitely to insist upon categorical hospitalization of *every* active case, minimal, asymptomatic, and all, and then attempt to prove the point by offering *no* potentially acceptable alternative!

Obviously, Regional Chest Clinics would make possible the limiting of applications to sanatoria to definitely diagnosed cases. Moreover, should sanatorium beds still be at a premium at the end of the next biennium (and they will be—it takes time to build sanatoria), the existence of Regional Chest Clinics, as described, would, *for the first time,* make feasible the routing of all applications for admission through a central point. This would be made possible because *relative* medical need and public health problems presented by individual applicants could then be intelligently compared, because of standard practices utilized for making clinical evaluations in widely separated parts of the state. Up to now and at present, no one in any sanatorium, group of sanatoria, or in an office in Richmond could be expected to be able to give a true priority rating to patients for admission, examined as they are by *many* physicians, over the whole state, who lack, to varying degree, access to acceptable facilities and services, consultative and otherwise.

SUMMARY

1. Integration of the entire medical profession, with particular reference to those who do not limit their practices strictly to conditions other than chest, into an all-out program for eradication of tuberculosis in the Commonwealth of Virginia, is of *paramount* importance to the success of that program.

The State Health Department has never been as seriously concerned as some over the present high percentage of tuberculosis deaths which have not previously been reported to health authorities as cases, as it has been interested in trying to bring about as soon as possible a state-wide participation of physicians in our program; once the latter objective has been attained, prompt reporting of persons having tuberculosis will result in due course; poor reporting, in *our* opinion, is primarily a *symptom* of a condition which, with your help, will soon be remedied.

2. Many physicians, public officials and others are well aware of the prevailing shortage of sanatorium beds. A number of factors, which cannot be weighed definitely at this point, will eventually provide clues to ultimate needs. Current recommendations of the State Board of Health have been based upon needs

which appear to be fairly obvious. More than 400 persons currently are on our waiting lists. Scarcely a day passes when our office in Richmond does not receive a letter describing a tragic situation in a local community posed by an individual patient in need of sanatorium placement. Most of these are referred to as dire "emergencies", and we do not doubt but that most of them are; by "huffing and puffing", we can occasionally squeeze one in. Once in a while, one is voluntarily committed to the State Farm—the only place that can be found in the entire state for him to lay his head. But the *only* real way to meet these many acute community problems—and the epidemic of headaches which accompany—is for those in positions of influence, who are personally aware of these problems, to *do* something about them—persuade those who represent them in the Assembly to appropriate more funds to provide more beds.

3. Physician interest in sanatoria for the most part is limited naturally to an ability to secure beds promptly for his patients who require sanatorium care; actual operation of the sanatorium is of little or no direct concern. But a much more intimate and ever-growing personal relationship can and should gradually evolve between the private physician and the staff who operate Regional Chest Clinics, for these are designed to place *at the local physician's disposal* invaluable supplementary tools, which *he himself* can call upon to whatever extent he deems necessary or advisable, to solve day to day diagnostic problems, and to maintain up-to-the-minute supervision of his tuberculosis patients.

Years ago, a professor at Hopkins said, "You cannot diagnose a disease unless you think of it." The more completely the general practitioner accepts renewed interest and responsibility for diagnosis and care of the average run-of-the-mill case of tuberculosis, the *more* "tuberculosis conscious" will he become, generally, in his practice—the more promptly will he recognize indications for early consultation, diagnostically or treatment-wise.

Regional Chest Clinics will help Local Health Departments and Public Health Nurses do a better job by making possible for them to work more closely and effectively with patients and their attending physicians, *and* by making feasibly closer integration between Local Health Departments, sanatoria, rehabilitation directors and councillors of the Department of Education, Welfare Departments, Federal, out-of-state agencies, etc., to the advantage of all.

When it is recalled that all eighteen Regional Chest Clinics can be established for little more than half the price of one fifty-bed ward in a tuberculosis sanatorium, it would appear to be extremely important that each of them be activated as soon as possible, not only because of intrinsic services they will be prepared to render, but because of the potential effect their successful operation should have in helping to establish ultimate need for additional, more expensive, sanatorium beds.

Award for Outstanding Research in the Field of Infertility.

The American Society for the Study of Sterility announces the opening of the 1954 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1954 meeting of the Society. Essays submitted in this competition must be received not later than March 1, 1954. For full particulars concerning requirements of this competition, address The American Society for the Study of Sterility, c/o Dr. Herbert H. Thomas, Secretary, 920 South 19th Street, Birmingham, Alabama.

The author should append on a separate sheet of paper a short biographical sketch of himself and include a photograph to be used in the necessary publicity should he be the winner of the award.

THE CLINICAL USE OF DIGITALIS PREPARATIONS IN CONGESTIVE HEART FAILURE*

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As one observes the management of patients with congestive heart failure in various hospitals, clinics and offices, it becomes apparent that the place of digitalis in such therapy and the methods by which it can be used to the best advantage are not fully appreciated. This can be attributed to a number of factors, one of the more important of which is the growing tendency to put more and more emphasis on the use of "salt-depleting" regimens, such as low-salt diets, mercurial diuretics and cation-adsorbing resins. Another factor is the confusion resulting from the introduction of many varieties of digitalis preparations, all of which have essentially similar cardiac effects, but which differ widely in their dosage, routes of administration, absorption, speed of action, duration of effects and toxicity. In view of this situation, it seems worthwhile to discuss the use of digitalis in general and the special features of the various digitalis preparations now available.

In regard to the general use of digitalis, one cannot but deplore the present tendency to relegate this drug to a secondary role in therapy. This is evident in the emphasis placed on salt-depleting regimens to the point that these have become, in the minds of many physicians, the primary method of treatment. Some even have gone so far as to advocate the use of these regimens exclusively, with digitalis completely eliminated from their armamentarium. It is also evident in the great store that appears to be placed on "wringing-out" such patients, with the apparent objective in mind that the more rapid and profuse the diuresis, the better the treatment and more skilled the physician.

Such reasoning can be attributed to the prevalence of certain misconceptions regarding the nature of congestive heart failure. It seems, therefore, that a brief discussion of the pathogenesis of congestive failure is in order, particularly in the light of recent advances in our knowledge of this subject. It is only by understanding the nature of the pathological state we are attempting to treat that we can use intelligently the therapeutic means at our disposal. There is still much that remains obscure in the process by which heart disease leads to the congestive phenomena we recognize as congestive heart failure. Nevertheless, in recent years, certain definite facts and much clearer concepts have emerged which clarify some aspects of the problem. Time does not permit any detailed review of this entire subject, nor is there opportunity to mention the data from which some of the conclusions are drawn, but certain pertinent points should be mentioned.

It is now apparent that the heart fails in one and only one way, that is, by an inadequate output for the needs of the body. However, most patients with heart disease become disabled, not by the usual manifestations of an inadequate cardiac output, but by a group of congestive phenomena. These latter are the consequences of fluid accumulation in the body, which can be brought about only by some alteration of renal function. This alteration in renal function is not a primary disturbance in the kidney, but, in some manner, is a response to the inadequate output of the diseased heart. Recent evidence suggests that this action by the kidney may be a regulatory one and, therefore, purposeful, even though it eventually becomes disabling. Since the heart has failed because of intrinsic disease which has impaired its efficiency, our first consideration should be given to drugs which directly affect the heart. Any therapy which is directed primarily towards removal of the accumulated fluid is symptomatic therapy. Since the accumulation of fluid is not the consequence of deranged kidney function, but represents a possible purposeful mechanism, attempts to upset the kidney's function by diuretics, while resulting in the removal of the accumulated fluid, nevertheless, are

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quite disturbing to the kidney's general and specific regulatory mechanisms. As a consequence of this and other salt-depleting regimens, derangements in the body's internal environment can result and, in some cases, this may be more incapacitating than the original congestion. Figure 1 shows the diuresis (indicated by the weight reduction) and the serum

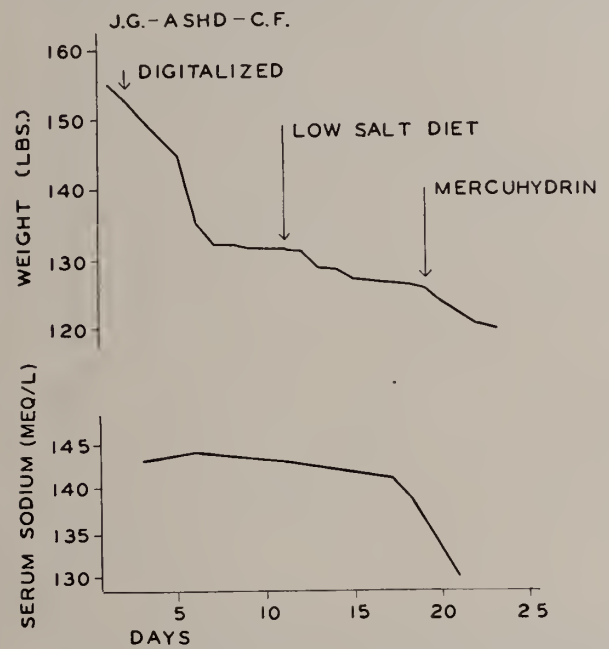


Fig. 1.—Diuresis and changes in serum sodium in a patient with congestive heart failure treated successively with digitalization, low salt diet and a mercurial diuretic.

sodium level in a patient treated successively with digitalization, then the addition of a low-salt diet, and, finally, the administration of a mercurial diuretic. On digitalization alone, there is a very satisfactory diuresis without any significant change in the serum sodium from the normal range of 142-145 mEq./L. Low salt diet brought about a further slight reduction in weight and a concomittant slight fall in serum sodium to 141 mEq./L. When a mercury diuretic was used there was still further weight loss and a marked drop in serum sodium to 130 mEq./L, a definitely abnormal value. This is a somewhat extreme example, but it brings out several pertinent points. The first is that a very satisfactory and, in many instances, an entirely adequate diuresis can be accomplished by digitalization alone. In this case the fluid loss amounted to approximately 25 pounds over a six day period and resulted in relief of the patient's symptoms. A low salt diet brought about an additional weight loss of about 5 pounds without any serious disturbance of the serum sodium. The mercurial diuretic resulted in further weight loss, but also produced a marked drop in serum sodium. This brings up the second point demonstrated by this case which is in the nature of a philosophical question. Was the loss of an additional 6 pounds of fluid by the mercury diuresis really beneficial and worthwhile to this patient in view of the severe reduction in serum sodium produced by it, especially when this residual fluid was producing no particular disability? We have not yet learned about all the disorders of the internal environment produced by mercurial diuretics, but reductions in serum sodium, as happened in this case, are well known, and disturbances in renal function to the point of renal failure can occur. There probably are many other alterations in homeostasis which have not been studied or cannot be measured.

Admittedly, there comes a time in nearly all cases when it appears that digitalis preparations are not sufficient to control the disabling manifestations of congestion. This, however, should be much later on in the course of the patient's illness. If digitalis therapy has been adequate in initiating and maintenance doses, patients can be carried for long periods in this manner without the need for diuretics. In our experience, situations where salt-depletion therapy appear to be indicated because digitalis therapy apparently is ineffective, are actually instances in which digitalis was given in a casual manner and in inadequate amounts. This is not a condemnation of the use of salt-depleting regimens as therapeutic procedures at the proper time, but they should be reserved for a later time when digitalis, although given in adequate amounts, becomes less effective in controlling the congestion. When finally we have to resort to them, we should be fully aware that a reduction in accumulated fluid is achieved at the expense of disturbances in homeostasis, some of which can be quite serious. Even so, these therapeutic means should not be pushed to their limits in an attempt to "wring-out the patient" and remove the last ounce of accumulated fluid. A little edema in the legs never hurt anyone, and certainly is better than hyponatremia and azotemia, and possibly other disturbances. Much more could be said regarding salt-depleting mechanisms, not only as to their disadvantages, but also in their favor. They give rise to many intriguing problems and speculation. We have been, perhaps, somewhat overcritical of them, but this was to conteract what we

consider to be an over-enthusiasm for them and to emphasize that digitalis holds the primary role in the management of congestive heart failure. The action of digitalis is directly upon the source of the trouble, the heart, and it is effective without further upsetting the internal environment of the patient. It should be the initial therapy and should be used to the exclusion of salt-depletion for as long as it is effective.

Next, we come to the manner in which digitalis should be used in order to achieve optimum benefit from it. Inadequate digitalis administration is a more common failing than over-digitalization. Quite often patients are given too little digitalis and, as a consequence, fail to respond sufficiently or fail to maintain their response, so that additional therapeutic procedures appear to be indicated. There is a marked individual variation in the quantity of digitalis needed to produce therapeutic effect and it is impossible to compute by any formula what a particular patient will need. It should be emphasized that there is no standard dose of digitalis equally effective in all patients for either digitalization or maintenance, regardless of the preparations used or the route of administration. The absorption of some preparations from the gastro-intestinal tract is so variable and inconstant that one cannot even approximate the therapeutic dose. Absorption is less variable in other preparations and is no problem at all in parenteral administration. Nevertheless, even in these instances, there is the additional factor of individual variation in the effective therapeutic level required, with the result that the quantity of digitalis required in any one case can only be approximated. Thus, each patient must be handled individually and his digitalis requirements determined by experience.

Where the failure is associated with some type of arrhythmia, such as auricular fibrillation, some indication of the adequacy of digitalis administration can be obtained from the response of the ventricular rate. Where failure is associated with a normal sinus rhythm, the ventricular response is of less value. Actually the only way of insuring adequate digitalization is by pushing digitalis administration to intoxicating levels. While we do not advocate this as a routine procedure, it does have merit when carried out cautiously and, by using the now available shorter-acting digitalis preparations, the hazards of prolonged, dangerous intoxications are less likely. Where patients are under close supervision, we are tending to resort more and more to this method of administration. This is accomplished in previously untreated cases by giving an approximately standard digitalizing dose initially and then "pushing" digitalization by the administration of more than the daily maintenance dose to the point of nausea or other manifestations of intoxication.

In the patient who has had a return of congestion while on supposedly maintenance digitalis, our first consideration, invariably, is an increase in the daily dose of the drug by two or three fold. Figure 2

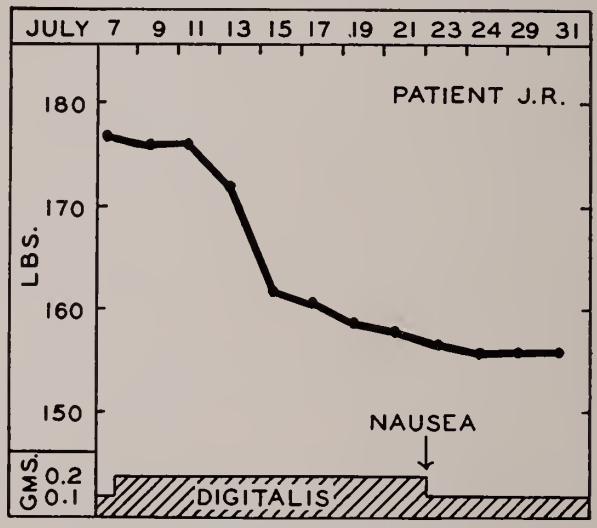


Fig. 2.—Diuresis resulting from an increase in the maintenance dose of digitalis ("pushing" digitalis).

shows the response to such an increase in the maintenance dose of digitalis. This patient had a recurrence of congestive phenomena while on a maintenance dose of 0.1 gm. of digitalis leaf. Increasing the maintenance dose to 0.2 gm. resulted in a satisfactory diuresis and a relief of the patient's symptoms. This favorable response has occurred in nearly all cases where such a therapeutic approach was made and demonstrates that the return of congestive phenomena in these instances was the consequence of inadequate initial digitalization, inadequate maintenance therapy or an increase in the patient's digitalis requirements. At one time we would have considered digitalis ineffective in these cases and gone on to the use of additional therapeutic measures, such as salt-depleting regimens. Now we find that patients can be maintained symptom-free on digitalis alone for long periods of time.

We come now to a consideration of specific digitalis preparations, their particular properties, meth-

ods of administration, their disadvantages and their virtues. There are many preparations, all of which have the same general cardiac action, but which differ markedly in the special properties of cost, potency, standardization, dosage, routes of administration, absorption, speed of action, duration of action, elimination, and cumulation. For this reason, the physician must be aware of the peculiarities of each preparation and use the one more suited to the therapeutic needs of each patient.

Any patient can be adequately digitalized and maintained with almost any digitalis preparation provided it is done with diligence and thoroughness. However, some preparations are quite troublesome to the physician and quite bothersome to the patient. Some preparations are so difficult to use that they are largely impractical, while others cannot be used because of intolerance by certain patients. In some instances, special preparations are needed because rapid effects or parenteral administration are required. The situation in patients in congestive heart failure varies not only among patients, but also in the same patient from time to time. Under certain conditions one type of preparation will be more effective and practical and less hazardous than others. One should have familiarity with several preparations, each one being the preparation of choice under a different set of circumstances. There are some preparations which have no particular usefulness at all. Of the remainder, the superiority of one preparation over another is related to methods of administration, prediction of dosage, speed of action, margin of safety and duration and type of toxic reaction. In considering the choice of preparations to be used in a patient we must consider how rapidly he needs to be digitalized, what route can be used, and how closely he will be followed.

Specifically, the various preparations of digitalis can be divided into three groups: (1) Crude Drug Preparations, (2) Soluble or Purified Preparations of the Crude Drug, and (3) Glycoside Preparations.

Crude drug preparations have powdered whole leaf of digitalis as their essential ingredient and consist of tablets, capsules, infusions, tinctures and suppositories. Infusions and tinctures are unsatisfactory and have largely been abandoned. We have had no experience with suppositories, so can give no first-hand information about them. It is possible that they may prove useful for maintenance therapy where the oral route cannot be used. Tablets and capsules are about equal in efficacy and, in spite of the current enthusiasm for the newer and more potent digitalis preparations, these crude drug preparations still remain a very satisfactory tool in the treatment congestive heart failure. They have the advantages of long use and familiarity, of being cheap, and, above all, are safe for outpatient treatment of patients under inconstant supervision. Almost any patient can be adequately digitalized and maintained with these drugs without too much difficulty. Their disadvantages or limitations consist of varying potency and absorption, slow action, somewhat prolonged effects and the fact that they can be administered only by the oral route. Varying potency and absorption are definite disadvantages but are not too serious since every patient has to be treated individually anyway, regardless of the preparation used. These disadvantages can be overcome to a large extent by using the same brand of specific crude drug preparation in a given patient. They are somewhat slow in action, taking from two to six hours for minimal effects and from twelve to twenty-four hours before maximum therapeutic effects are obtained. Except in those instances of congestive failure associated with rapid ectopic rhythms, this slow action is of no particular consequence since rapid digitalization is not necessary. As a matter of fact, even in critical cases, no digitalis preparation is going to be effective right away, and much can be done to alleviate symptoms immediately by narcotics, rest, oxygen when practicable, the application of tourniquets to the extremities and venesection when indicated. Digitalis is the primary early drug, but it is for long-term therapy and whether it is effective within several hours or after many hours is of no real consideration in most cases. The prolonged action of digitalis leaf is a disadvantage only when patients receive intoxicating doses, since it may take several days before these manifestations subside. The most serious limitation of the crude drug preparations is that they cannot be used parenterally.

On the whole, they are quite satisfactory for digitalizing the average patient. They are the safest of all preparations for maintenance therapy, since patients on these preparations usually develop prodromal symptoms of intoxication before serious cardiac toxicity occurs. There are many different preparations, since most every pharmaceutical company makes this product, and, so far as we know, one is just about as good as another. It is important,

however, to stick to one particular preparation, since the potency may vary between brands and you should be familiar with the one you use. The dosage schedule for digitalization depends upon how rapidly it needs to be accomplished and how closely the patient is to be followed. It varies anywhere from 6-12 grs. a day for more rapid digitalization to 3-6 grs. a day for slower effects. The maintenance dose of digitalis leaf, like the digitalizing dose, also varies and must be determined by trial in each individual. We have found this to vary from 1½ grs. every other day in some patients to as much as 3 grs. or more daily in others.

The soluble or purified preparations of the crude drug consist, for the most part, of mixtures of the active principles of digitalis from which much of the inert or irritant material of the crude drug has been removed. There are a number of these preparations* on the market and they are available in tablet, suppository, liquid and injectable forms. The tablets are somewhat expensive and, other than producing less local gastric irritation, have no particular superiority over the crude drug. The liquid preparations are designed for oral administration and are most useful in infants and children where fractional doses are used and where liquid oral preparations are the only practical method of administration. The injectable preparations are for parenteral administration, either intramuscularly or intravenously. In instances where the oral route cannot be used, digitalis therapy can be carried on by the intra-muscular administration of these preparations, but this is not too satisfactory because of the irritation and pain generally produced at the site of injection. There is no particular need for their use intravenously because other preparations are available which are far superior for administration by this route.

The *Glycosides* are newer digitalis preparations which are superior to the previously discussed preparations in many respects and have special properties which render them the drugs of choice under certain circumstances. Nevertheless, they have certain disadvantages which limit their usefulness in all instances and have dampened, somewhat, the enthusiasm with which they were first introduced. These glycosides are contained in both digitalis purpurea and digitalis lanata, and are divided into two groups, the natural and "purified" glycosides. The natural glycosides in purpurea are identical with those in lanata, except that they lack the acetyl group and are, therefore, known as deacetyllanatosides. The purified glycosides are derived from the natural glycosides by the removal of glucose molecules. Thus *digitoxin, gitoxin,* and *digoxin* are degradation products of natural glycosides, which have lost glucose during the process of "purification". This process alters the properties of the glycosides, but the resulting "purified" preparations are not thereby rendered superior to the natural glycoside since it is felt by some investigators that the presence of glucose facilitates the action of the glycosides. The natural glycoside for *gitalin* in purpurea has not been isolated. Some of these glycosides are not available for clinical use, while others, such as gitoxin and gitalin, have been available an insufficient period of time for adequate evaluation. This particular portion of the discussion will be concerned with digitoxin, lanatoside C and digoxin, on which much clinical data has been accumulated. In passing, however, it might be mentioned that gitalin shows promise because of its low (33%) therapeutic index (the ratio of therapeutic dose to the toxic dose) as compared with most other preparations which have an index of about 60%. In addition, mixtures of glycosides, of which "Digilanid"† is an example, show promise and, ultimately, some such mixture may be developed which approaches the "ideal" preparation.

Digitoxin was the first of the glycosides to be isolated and made available for clinical use, so that more information has accumulated on this than on the other glycoside preparation. It has a number of advantages. It is standardized gravimetrically and biologically and is considered to have unvarying potency. Since it is completely absorbed from the gastro-intestinal tract, the oral and parenteral doses are the same. It has a rapid onset in action, the fastest preparation available for oral administration. Its therapeutic effects begin in 1-2 hours after oral administration and full therapeutic effects are attained in about 4-6 hours. It produces no local gastric irritation and does not cause nausea or vomiting except in toxic amounts by central action.

Digitoxin has several disadvantages. Because it produces little or no nausea or vomiting, except in

*Brand names: "Digicardium" (Rorer), "Digifolin" (Ciba), "Digitalis Injection" (Upjohn), "Digiglusin" (Lilly), "Digalen" (Hoffman-La Roche), "Digifortis" (Parke-Davis).

†Sandoz Chemical Works, Inc.

quite toxic doses, there may be no prodromal symptoms of toxicity. Toxic arrhythmias, such as bigeminy, may develop without any symptoms whatever and it is possible that fatal disturbances in the heart beat may occur without prior warning to the patient. This insidious development of serious toxicity renders it a less desirable preparation for maintenance therapy, particularly where there is inconstant supervision. In addition, it is slowly eliminated from the body which tends to result in cumulation, and patients may gradually retain toxic amounts on what were thought to be a maintenance dose. This slow elimination is also a disadvantage in situations where toxic amounts are given because toxic manifestations may persist for as long as three to five days. In spite of these less desirable characteristics, we find that for some situations digitoxin is a most useful and satisfactory preparation. It appears to be the best preparation available for oral digitalization, since it is rapidly effective and is unlikely to upset patients who are already ill from congestion failure. There are a number of digitoxin preparations on the market.*

The recommended digitalizing dose has been given as 1.2 mgm., but it should be emphasized that this is the average digitalizing dose, suitable for the majority of patients, but too much for some and too little for others. The implication that there is a standard dose for digitoxin has led to the erroneous concept that the same dose of this drug, as well as other preparations, is proper in all cases. Actually the digitalizing dose varies from 1.0 to 1.5 mgm. This can be given as a single dose, but it is safer to administer it in divided doses over a period of 8-12 hours. The difficulty in accomplishing adequate digitalization with digitoxin is that pushing it to the point of toxicity results in prolonged toxic manifestations. To avoid this, one can give a basic dose of digitoxin (1.0—1.2 mgm.) and then push digitalization with some other, less persisting, preparation. Digitoxin can be used for maintenance, but the patients must be followed at regular intervals because toxicity may develop insidiously. The maintenance dose for digitoxin varies from 0.1 mgm. to 0.2 mgm. It is well to remember that a small difference in the dose of this preparation makes a considerable difference in its effects.

*Brand names: "Digitaline Nativelle" (Varich), "Digisidin" (Winthrop-Stearns), "Purodigin" (Wyeth), "Cardigin" (National Drug), "Crystodigin" (Lilly) and "Foxalin" (Grant).

There are intravenous preparations of digitoxin, but we prefer not to use them because they are quite potent and, in a few instances, untoward results have occurred immediately following such administration. We believe that there are other more satisfactory intravenous digitalis preparations.

*Lanatoside C** is one of the natural glycosides of digitalis lanata and is a chemically pure, crystalline substance which is standardized gravimetrically and biologically. It is an unsatisfactory oral preparation because of its poor (10%) absorption from the gastro-intestinal tract and its slow action when given in this manner. On the other hand, we consider it the preparation of choice for intravenous digitalis administration, since it is relatively safe and has a rapid onset of effect. It is particularly useful in instances where the quantity of digitalis given previously is unknown. Lanatoside C can be given under these circumstances in divided or partial digitalizing doses by the intravenous route without any adverse effects. As a matter of fact, it has been shown that a full digitalizing dose of lanatoside C can be given intravenously with impunity to a patient already digitalized. The average digitalizing dose is 1.6 mgm., which can be given in single or divided doses. Its therapeutic effects begin within 15 to 30 minutes and full therapeutic effect is attained in 3-5 hours. The duration of effects is relatively short, with therapeutic levels lasting less than 24 hours. This short duration effect renders it difficult to maintain adequate digitalis levels on this preparation alone. It is necessary to establish more permanent digitalization with one of the longer-acting preparations, such as digitoxin or whole leaf. For best results this latter should be given in divided doses beginning about 6 hours after initial lanatoside C administration. Figure 3 illustrates the rapidity with which digitalization is achieved with intravenous lanatoside C. The brief duration of its effects is demonstrated by the beginning rise in ventricular rate after about six hours. Permanent digitalization was accomplished by giving digitoxin in divided doses at a subsequent time. It is apparent that the institution of permanent digitalization should have been started earlier (6 to 10 hours) in order to maintain the full digitalization achieved initially by lanatoside C.

Digoxin† is a purified glycoside obtained from

*Brand name "Cedilanid" (Sandoz).
†Brand name: "Digoxin" (Burroughs Wellcome).

lanatoside C by degradation. It is a pure, crystalline substance that is standardized gravimetrically. It is almost completely absorbed from the gastrointestinal tract and is, therefore, a satisfactory oral

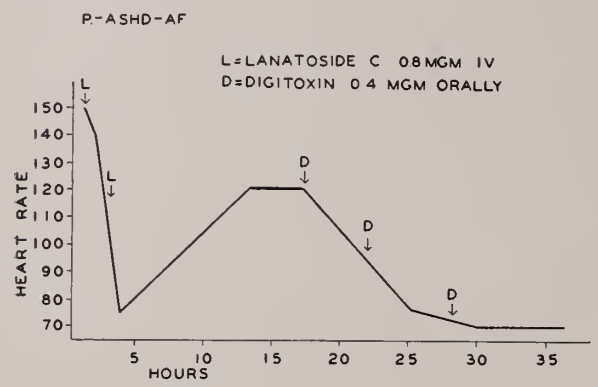


Fig. 3.—Effects of lanatoside C and digitoxin on the ventricular response in auricular fibrillation. (See text for discussion).

preparation. The digitalizing dose varies from 1.0 to 3.0 mgm. and the maintenance dose is between 0.05 to 0.5 mgm. Orally, the therapeutic effects of digoxin begin in 1½ to 2 hours and full therapeutic effect is attained in 8 to 10 hours. The duration of action is very short; the therapeutic effects lasting less than one day. Because of its rapid elimination, it is very difficult to accomplish adequate digitalization and maintenance with this preparation alone. It would appear a preferable drug for pushing digitalis because, if toxic manifestations occur, they last only a few hours. We have used it in this manner by giving 0.5 mgm. doses of digoxin in addition to a daily maintenance dose of digitalis leaf or digitoxin. There is an intravenous preparation of digoxin but this is not as satisfactory as other ones which are available.

Summary: Figures 4 and 5 compare the onset and duration of action of the various digitalis preparations when given orally and intravenously. From these illustrations and the foregoing discussion, it is apparent that the various preparations differ in the manner in which their therapeutic effects are achieved and, hence, each has special features which make it particularly advantageous under certain circumstances.

Digitalis leaf (crude drug) is a satisfactory and safe preparation for oral digitalization and maintenance and still remains a valuable drug for these purposes.

The purified crude drug preparations produce somewhat less local gastric irritation and are of value in special cases of intolerance to the crude drug. Otherwise, the tablets and capsules have no particular advantage over crude drugs for routine oral use. The liquid oral preparations of purified crude drugs are most useful in giving fractional doses to infants and children. The parenteral preparations can be used by the intramuscular route for maintenance therapy in cases where oral administration is impossible. We do not believe they have any particular place in intravenous administration.

Digitoxin appears to be the best preparation for oral digitalization because of its rapid effects and

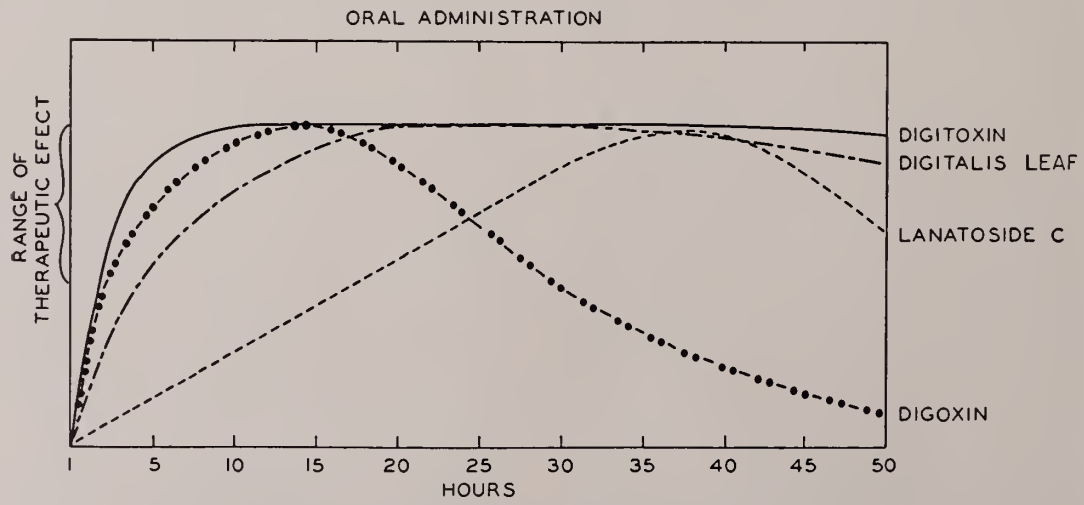


Fig 4.—Comparison of the time of onset and duration of therapeutic effects of digitoxin, digitalis leaf, lanatoside C and digoxin when given orally.

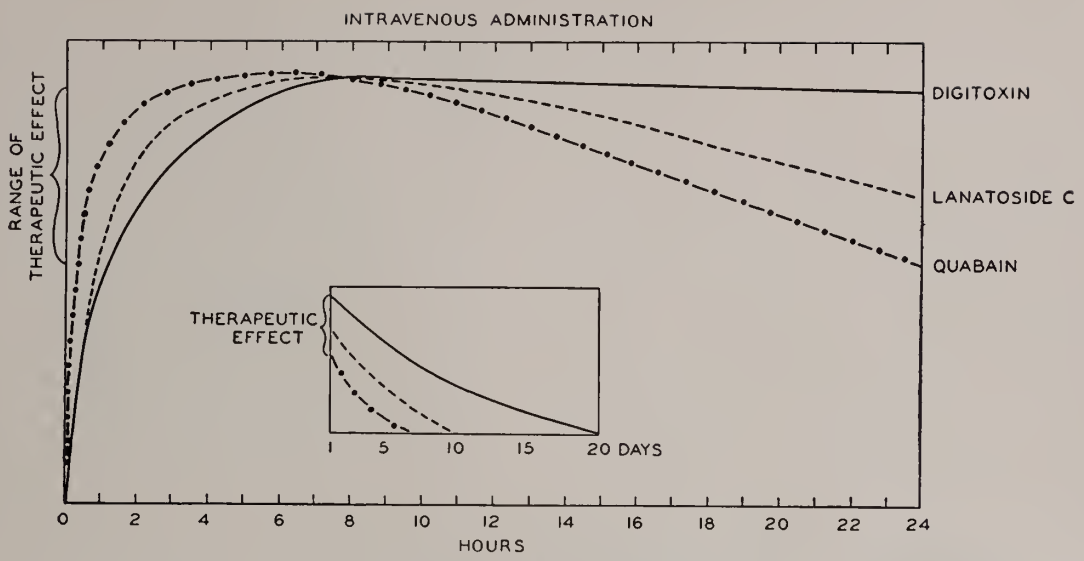


Fig. 5—Comparison of the time of onset and duration of therapeutic effects of digitoxin, lanatoside C and quabain when given intravenously.

lack of local gastric irritation. It is safe to use for maintenance therapy, provided there is adequate supervision. We consider it a somewhat hazardous intravenous preparation.

Lanatoside C, in our opinion, is the ideal preparation for intravenous use, when rapid digitalization is desired or when digitalis cannot be given orally. It is of particular value in patients in whom the quantity of previously administered digitalis is unknown. It is not a very satisfactory oral preparation for digitalization or maintenance because of its poor absorption, its delayed onset of therapeutic effects, and its brief duration of effects.

Digoxin appears to be a useful drug in pushing digitalis to toxic levels since the toxic manifestations so produced are of short duration. The short duration of action makes it difficult to digitalize and maintain patients with this preparation alone.

This is by no means the final answer to the various aspects of specific digitalis preparations. There still is no ideal preparation for use under all circumstances, and the search for other preparations which are more suitable is continuing. This involves not only the isolation of new active principles, but also the very interesting work being done on the selective combination of active principles. The foregoing reviews the status of only those preparations with which there have been sufficient experience to warrant conclusions at the present time.

Conclusions

1. The optiman benefits from the use of digitalis preparations in the treatment of patients with congestive heart failure are not attained in many instances because of a failure to appreciate their place and proper use in such therapy and because of unfamiliarity with the special properties of the various preparations available.

2. Digitalis therapy is the treatment of choice in congestive heart failure since it has a direct and specific action on the failing heart and should be used initially and in preference to salt-depleting regimens.

3. Digitalis to be effective must be used in adequate amounts, both in initial digitalization and in maintenance therapy.

4. There are a great variety of digitalis preparations, all of which have special properties with which we should be familiar. We should be discriminating in our choice of preparations and, in any given situation, use that preparation which is most suitable under the circumstances.

LOCALIZED PULMONARY HYPERTROPHIC EMPHYSEMA

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Localized pulmonary hypertrophic emphysema has been described as a rare type of cystic disease of the lung. It is recognized as a definite clinical entity substantiated by radiologic and pathologic data. Some authors have called it congenital lobar emphysema; others, unilobar obstructive emphysema. Williams tabulated the ten previously reported cases and added one of his own. Sloan reported four cases at the 1953 meeting of the American Association for Thoracic Surgery.

This condition must be differentiated from congenital heart disease, atelectasis, interstitial emphysema with spontaneous pneumothorax, agenesis of a lung, congenital tension cyst, regional obstructive emphysema, foreign body in a bronchus and diaphragmatic hernia or eventration.

Shaw's description of the pathology of the condition is excellent. To quote: "The diseased segment or lobe is enlarged to many times its normal volume in a uniform dilatation of the air sacs. The bronchi, arteries, and veins are much smaller than one would expect to find supplying a segment of lung. Even when the bronchi are opened and the segment of lung tissue is removed from the body it does not collapse appreciably. It is uniformly pink in color even in adults, indicating that it has not taken part in the usual ventilation of normal lung tissue. Except for its pink color, it more closely resembles gelfoam than any other substance. Several hours after being removed from the body, this tissue will float upon water with less than a tenth of its volume being submerged. Microscopic examination of the tissue reveals air sacs and alveoli that are generally distended and empty. The intervening septae are thin and there is no inflammatory reaction. The blood vessels are small and have thin walls. The bronchioles are empty."

CASE REPORT

A white female, nine years of age, was referred to the Johnston-Willis Hospital by Dr. Tureman. The history was that of a normal, full term spontaneous delivery. She walked at ten months of age. Her speech was not plain until three to four years of age. She had had scarlet fever, chicken pox and measles without sequelae. During early childhood she had suffered from frequent upper respiratory infections which had diminished following tonsillectomy at the age of five. Her parents had noticed that from infancy she became upset easily and often had episodes of vomiting associated with these emotional upsets. These symptoms had gradually increased in frequency.

Physical examination revealed a well nourished and well developed nine year old girl. A diffuse pulsation was noted over the precardium and to the right of the sternum. An area of cardiac dullness was noted to the right of the sternum. A systolic murmur was heard to the right of the sternum. A gastrointestinal series was negative. A roentgenogram of the chest showed the heart and mediastinum displaced to the right with a cystic change in the left upper lobe (Fig. I).



Fig. I. A. P. roentgenogram of the chest pre-operative.

She was seen by Drs. Camp and Langford and a congenital cardiac condition was excluded. After examination by Drs. Cole and Buis, who confirmed the diagnosis of localized pulmonary hypertrophic emphysema, surgery was advised.

On 2-10-53, she was explored. The left upper lobe except for the lingula segment was involved in the localized emphysema and filled the entire



Fig. II. A photograph of the specimen.

left chest (Fig. II). It bulged into the wound on opening the pleura and had produced an atelectasis of the left lower lobe. An upper left lobectomy was performed. Fig. III shows a roentgenogram of the specimen one hour after removal. The specimen measured 12x10x7 cms. and weighed 100 grams. It was soft, feathery to touch, crepitant and tended to collapse very slightly. The alveoli were widely dilated, the walls were very thin and tenuous, and many of these were broken and lined with a single layer of flattened cells. The walls of the bronchioles were thin and the lumina dilated. Fig. IV shows a low power photomicrograph of the specimen.



Fig. III. A roentgenogram of the specimen one hour after removal.

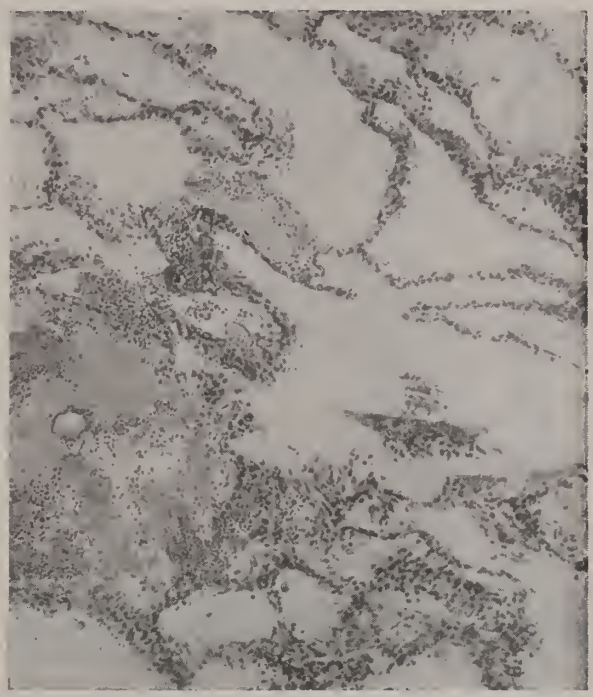


Fig. IV. A low power photomicrograph of the specimen.

The patient has done exceedingly well since operation. Fig. V shows a post-operative roentgenogram. The lower lobe has almost filled the extra pleural cavity.



Fig. V. A post-operative roentgenogram of the chest.

There has been no recorded case of the disease occurring in the lower lobes. All recorded cases of this entity subject to lobectomy have survived with relief of symptoms. The etiology of the condition is unknown. Some authors have suggested a value mechanism produced by a fold of mucous membrane in the stem bronchus; others have thought a thin-walled bronchus might have been compressed by an adjacent vessel. Still others have felt a localized bronchial chondromalacia to be the etiology.

SUMMARY

A case of localized pulmonary hypertrophic emphysema in a nine year old girl successfully treated by lobectomy has been reported. All recorded cases of this condition which have been treated by lobectomy have survived. All recorded cases not treated by surgical removal have died. It would seem reasonable to conclude that lobectomy is indicated in this condition.

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New Drug Aids in Treatment of Heart Condition.

Methoxamine hydrochloride (vasoxyl, trade mark), a relatively new synthetic amine, successfully ended two attacks of excessively rapid beat of the upper part of the heart, it was reported in a recent issue of the J.A.M.A.

In two patients with the affliction complicated by vascular collapse, normal heart beat was obtained within a few minutes after intramuscular or intravenous administration of the drug, according to Drs. Alfred J. Berger and Robert L. Rackliffe, New Britain, Conn. The doctors are associated with the department of medicine, New Britain General Hospital.

"This drug is characterized by great rapidity of action" and differs from many other such drugs "in that it does not cause cardiac irritability," the doctors wrote, adding: "If further experience confirms its safety, it may prove to be the drug of choice in the treatment of supraventricular tachycardia [rapid beat of the upper part of the heart]."

No toxic effects of the preparation were noted in the cases reported.

ADENOCARCINOMA AND LEIOMYOSARCOMA OCCURRING IN THE SAME STOMACH—CASE REPORT

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An incidence of two such different malignancies occurring in the same stomach at the same time has never before, so far as we were able to determine after a rather thorough search of the literature, been reported. Multiple carcinoma of the stomach is exceedingly rare and a review of the literature from 1887 to 1940 by Schnieder[1] revealed only 10 authenticated cases. Multiplicity of carcinoma of the colon is well known and needs no further elaboration; carcinoma in association with other types of malignancy arising from other than epithelial structure is very uncommon. The case herein reported is an authenticated adenocarcinoma and leiomyosarcoma occurring in the same stomach. These microscopic sections were reported by the Department of Pathology at the University of Virginia Hospital, and further reviewed by Dr. Frank W. Foote, attending Pathologist at the Memorial Cancer Center in New York. In a personal communication from Dr. Foote[2] he states that in a recent review of the literature he was unable to find any mention of two such widely diverse tumors occurring in the stomach. Warren and Gates,[3] in their extensive and elaborate review of this subject which included autopsy study of over 4,000 necropsies on cancer patients, were also unable to demonstrate two such malignancies of the stomach.

Case Report

G. P., #2427, a 68 year old colored male. was admitted to the Mary Washington Hospital, March 10, 1952, because of vague abdominal symptoms and weight loss. For eight years this man has had intermittent pain in the epigastrium which he did not associate with ingestion of food. About three months ago his pain became more severe until at the time of admission it was constant. Frequent vomiting had been present for seven days; no blood was noted in the vomitus, but tarry stools were noted for the last three weeks. Weight loss was significant; the patient stated he had lost 15 pounds during the last month.

No family history of significance was elicited. Except for the "indigestion" during the last eight years his health was good and he had worked as a farm hand until one month before admission to the hospital. A review of the systems disclosed no pertinent information.

Physical examination revealed a well developed 68 year old colored male who had obviously lost weight, and who appeared chronically ill. The mucous membranes were pale, and the skin was very dry. Blood pressure, 170/110; the chest was clear, and no cardiac abnormalities were noted. There was definite tenderness in the epigastrium, and a mass about 10 cm. in diameter located in the epigastrium was noted. The liver edge could not be felt, but the edge was percussed to a level of two finger-breadths below the costal margin. On rectal examination the prostate was felt to be slightly enlarged;



Fig. 1. X-ray of the stomach filled with barium, showing the ulcerated lesion at the pyloric end on the lesser curvature, and the filling defect produced by the extramucosal tumor in the midportion of the stomach.

no hardness or induration was noted, and no "rectal shelf" could be palpated.

Laboratory data was reported as follows: hemoglobin, 30%; W.B.C., 10,500, with a normal differential. Urine was negative. Plasma proteins, 3.4 gms.%. X-ray of the chest was negative. Barium studies of the stomach were reported as showing an ulcerating lesion of the pylorus and a filling defect in the mid-portion of the stomach (Fig. 1).



Fig. 2. Sections through the two tumors, the upper showing the carcinoma and the lower the leiomyosarcoma.

The patient was prepared for operation with numerous whole blood transfusions, large amount of protein hydrolysate by mouth, and gastric lavage as indicated. Five days after admission an extensive subtotal gastrectomy was carried out. A retrocolic Polya-Hoffmeister type of anastomosis was carried out and the patient withstood the procedure well; he received 1,000 c.c. of whole blood during the operation. His postoperative course was uneventful and he was discharged March 23, 1952, thirteen days after his admission.

There was nothing specific in the history to even suggest the presence of two lesions. Following operation the patient was seen only twice; the first time six weeks after operation and again four months after his discharge from the hospital. When last seen he was losing weight, and complained of severe constant epigastric burning. He was vomiting at frequent intervals, but he refused hospitalization. According to a letter from his wife he expired August 5, 1952, approximately five months after operation.

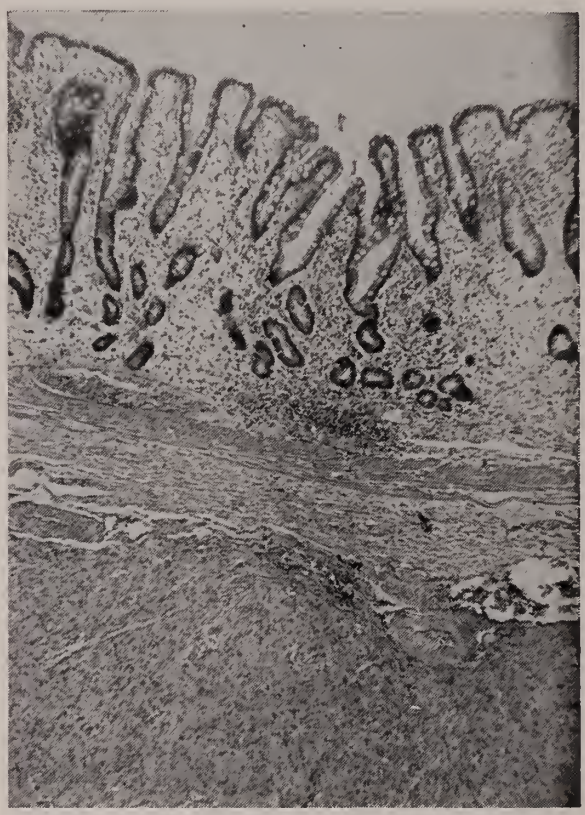


Fig. 3. Low power photomicrograph of the extramucosal tumor demonstrating the continuity of epithelium overlying this.

PATHOLOGY REPORT

The specimen consisted of the major portion of the stomach with the omentum attached which had been transected just below the pylorus and at a level high on the fundus. On the lesser curvature at the pyloric end was an ulcer crater 3 x 3 cm. and 8 mm. in depth. Also on the lesser curvature, 6 cm. proximal to the ulceration described with intervening normal mucosa, was an intramural extramucosal tumor measuring 6 x 5 x 4 cm. The overlying mucosa was normal. (Fig. 2). The attached lymph nodes showed no evidence of involvement. Microscopic examination was reported as typical adeno-

carcinoma and leiomyosarcoma. "There is no evidence of continuity seen in the tumors (Fig. 3),

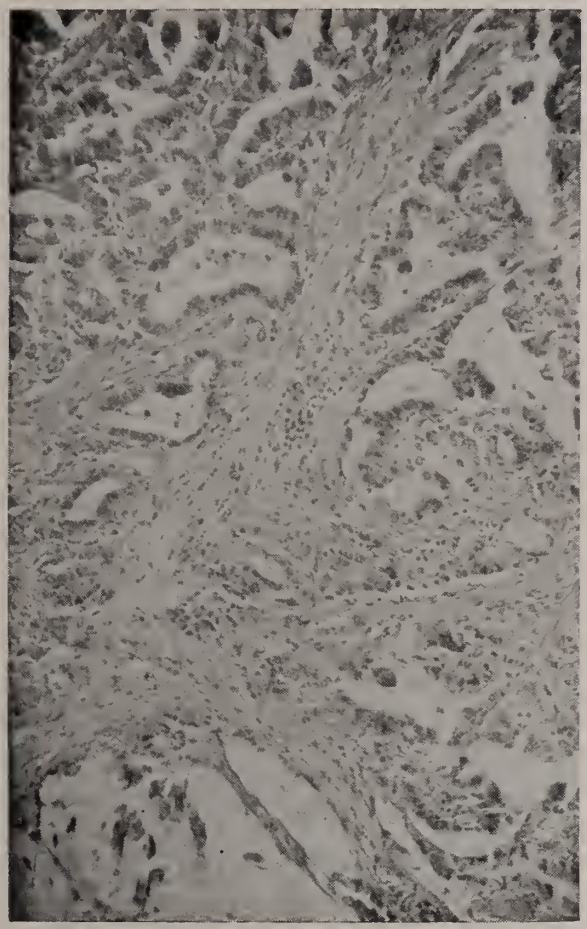


Fig. 4. Photomicrograph of the carcinoma of the stomach. The mucoid character of this tumor is well shown in the inferior aspect of the picture.

they are completely dissimilar in patterns of growth, and there is no reason to feel they are related except by coincidence (Figs. 4 and 5)."

Discussion

Multiple malignancies of the gastro-intestinal tract, while not extremely rare, are very uncommon. The case reported here is one of two tumors—one of epidermal origin, and the other a tumor of mesodermal origin. To see this in any organ is very, very unusual, and, as stated before, this is the first instance of two such diverse tumors arising in the stomach that we have found in the literature. There was nothing to suggest such an unusual occurrence in the pre-operative studies, although X-ray did reveal an ulcerating lesion at the pyloric end of the stomach, and a filling defect in the mid-portion of the stomach. It seems rather obvious that these were two distinct tumors, but, of course, a cellular diagnosis is never possible in X-ray studies. The review

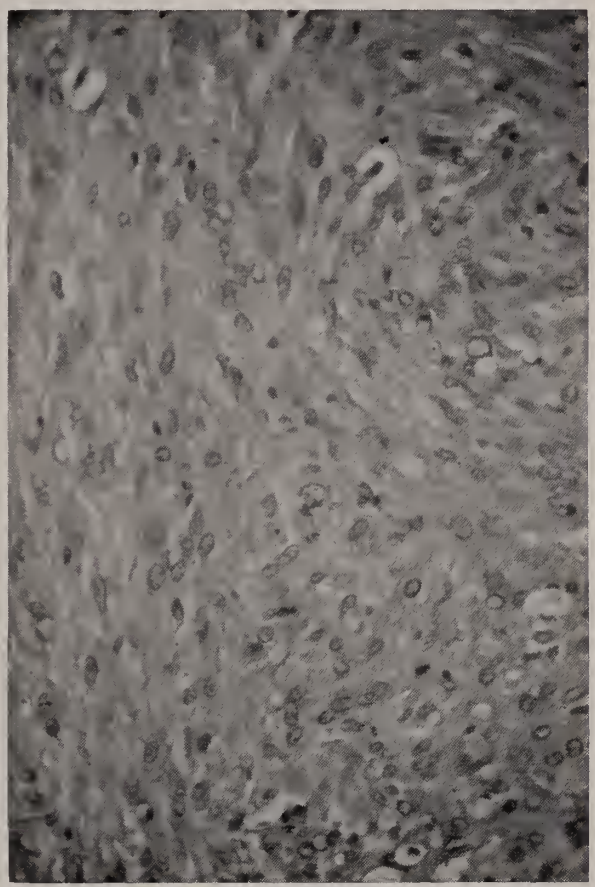


Fig. 5. Photomicrograph of the leiomyosarcoma showing a typical area of this tumor. One mitotic figure is seen in the photograph.

by Warren and Gates is an all-encompassing statistical review of this subject, and those who are interested in a further pursual of multiple malignancies would do well to study this classic.

Conclusions

An authenticated and proven case of adenocarcinoma and leiomyosarcoma occurring in the same stomach is reported. Because this is the first instance of this which has been commented upon, we felt that it was worthy of reporting.

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THE CHOICE OF DRUGS FOR DISTURBED PSYCHIATRIC PATIENTS*

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It is fortunate that I am no expert on drugs and do not intend to discuss them as such, for in that case it would surely be impossible to present much in the way of a comprehensive review of the many drugs available for use, their advantages and disadvantages, their methods of administration, etc., in the short time allotted. No doubt, because of my pharmacological deficiencies, I have decided that the gentleman who selected this subject intended this to be not primarily a discussion of various drugs but rather a brief informal presentation of attitudes toward them and their use in controlling disturbed patients—a sort of "to give or not to give" proposition.

The term disturbed psychiatric patient is here considered to mean—not merely a worried person—but a person who is unable to behave in accordance with the standards of those about him, and, furthermore, who is so noisy, so uncontrollable, so over-active, so physically threatening, so violent that the people about him are disturbed. In this category we may find representatives from almost all diagnostic groups —the fighting drunk, the excited catatonic, the maniacal manic, the homicidal paranoid, the enraged psychopath, the agitated depressed, the hysterical neurotic, the delirious patient, the psychotic alcoholic, and many others. To discuss all drugs or medication that would be useful in treating such a heterogeneous group of disturbed patients is out of the question here. Consequently, I have again presumed to assume that the term "drugs" means sedatives or narcotics, and that the question is—do we "knock them out" with something, and, if so, what is the weapon of choice?

That depends on where you are, what you're dealing with, what you're trying to do, and what your facilities are. Disturbed patients all seem to be either in a psychiatric hospital, in a general hospital or else somebody is trying to get them into a hospital. In each situation the problem is different, and the facilities are different.

When I attempt to formulate my attitude toward the use of drugs to control disturbed patients, I am reminded of Calvin Coolidge's comments when, upon returning from church, his wife asked what was the subject of the sermon—"Sin", replied Coolidge. "What did he say about it?" persisted Mrs. Coolidge. "He was agin it" answered Coolidge in his usual uncircumstantial way.

This is not meant to imply that drugs should never be used to quiet disturbed patients. The physician seeing an upset person in the home is expected to *do something,* and, indeed, the safety of others often demands that the patient be literally put to sleep with a strong sedative. In such cases he must, of course, do the best he can with what he has available. Since excited patients often require large amounts of sedation to be put to sleep, there is nearly always some risk involved—respiratory failure is always a possibility and stimulants such as Metrazol, Coramine, caffeine should be available. In such cases, whatever knowledge the physician has of the patient's physical condition should be utilized in his choice of drugs. For example, the short-acting barbiturates are largely destroyed in the liver; consequently, their use should be avoided in the presence of extensive liver damage. Morphine also is contraindicated in the presence of liver damage.

Moreover, alcohol and barbiturates apparently have a synergistic effect. Therefore, it is dangerous to give an acutely intoxicated person barbiturates, and extremely dangerous to give him intravenous barbiturates. During the last year we have had the unhappy experience of being called back by a family physician who one hour before had reserved a room for an alcoholic patient, saying that he would give him something to quiet him so that he could make the trip. He called back to say that the patient had expired immediately after being given an I.V. barbiturate. It seems that if a disturbed patient in the home must be given drugs to control him, it should be for the purpose of facilitating his transfer to a hospital—not with the idea that he will clear up if he can get a few hours rest. This may work with some patients—they are the ones that we as psychiatrists don't see, of course. Here at Westbrook

*Read before the Spring Meeting of the Neuropsychiatric Society of Virginia, held at Westbrook Sanatorium in Richmond, April 1, 1953.

we repeatedly admit patients who were sedated at home or in general hospitals for days in an effort to control their disturbed behavior. They have almost invariably been made worse by the drug. We like to get these patients because they almost invariably improve—sometimes dramatically—when the drug is withdrawn. The home use of drugs to control disturbed patients is sometimes necessary but is hazardous, may increase and prolong the existing disturbed state and should be done only if necessary. In the general hospital, as in the home, facilities are not usually ideal for the care of noisy, irrational people. Here, again, drugs may have to be given as an emergency measure. It might be pointed out that an unafraid and understanding nurse may be more effective than all the drugs in the pharmacopoeia.

Opinions vary as to the advisability of controlling disturbed behavior in the psychiatric hospital by the use of drugs. My experience has been that the use of drugs is less effective and more dangerous than other methods. Continuous narcosis was effective with certain acutely disturbed combat casualties, but I have not been impressed by its general usefulness with disturbed civilian patients. Even with good nursing care there is the danger of pneumonia or aspiration of vomitus into the lungs when it is used. Also the sedated patient is apt to fall and injure himself. Here we practically never sedate disturbed patients except for mild bed-time sedation for which we prefer one of the long acting barbiturates such as Ipral, Alurate or phenobarbital. These seem less apt to confuse the patient further, or to excite him. Elderly people with arterio-sclerotic or senile brain changes seem to nearly always be made worse by sedation.

As I mentioned above, we believe that nearly all disturbed patients can be handled more satisfactorily without relying on sedative drugs. As I understand the limitations of my subject it would not be appropriate to go into a discussion of other methods of dealing with these patients though a negative attitude toward drug control of patients seems to demand that something better be offered. However, on this occasion mention of EST, restraint, segregation of the disturbed patient, continuous baths, hydrotherapy, etc. is not necessary since this group is thoroughly familiar with their use. We are continually being impressed by the fact that the disturbed patient can often understand more than he seems to be able to understand, and that if approached by physicians, nurses and attendants with an attitude of sympathy, kindness, and firmness—without fear and anxiety—coupled with a genuine desire to understand him and to cooperate with him as far as possible he will be able to respond surprisingly well. On the other hand, the drugged patient seems to become more confused, frightened and bewildered. It is, of course, freely admitted that it is much easier to withhold drugs in the psychiatric hospital than elsewhere, but surely this method of approach can be effective at least to a limited extent in the home or in the general hospital.

To summarize, the actual need to control the activity of the disturbed psychiatric patient is greater in the home and in the general hospital than in the psychiatric hospital where they can often be handled with greater safety and effectiveness by using other measures. Patients are often sedated unnecessarily to relieve the anxiety of family and others in attendance. In many cases the use of drugs is dangerous to life and in addition it often injures the patient's progress or makes him worse. A kind, firm, understanding approach is effective in psychiatric hospitals and could be adapted to other situations.

In conclusion, it is suggested that psychiatrists can do much through their contacts with other physicians, medical students and nurses to broaden their understanding of and improve their treatment of disturbed psychiatric patients so that they may be treated more safely and more effectively without resorting to potentially harmful drugs.

INFANT MORTALITY IN RICHMOND

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In order to estimate Richmond's present status in relation to infant morbidity and mortality a study of the available statistics on file in the city health department was made. Most recent figures thought to be of value to those interested in present rates and causes of infant deaths were presented at the regular fetal and neonatal mortality conference at the Medical College of Virginia. Fetal mortality comparisons were not made because of the difference in legal requirements and in completeness of reporting from state to state.

Richmond's general infant mortality rate exclusive of fetal deaths was first compared with other large cities. Resident figures for 1949, the latest available data for comparative studies, were used. Among the 92 cities in the United States of over 100,000 population, Richmond ranks 85 with a mortality rate of 36.9 per 1,000 live births. Only the cities of San Antonio, Knoxville, Atlanta, Charlotte, Norfolk and Scranton have higher rates. San Antonio had the highest rate of 45.7. Seventy-nine cities had a rate of lower than 35. Sixty had a rate lower than 25, and Portland, Oregon, with a rate of 19.9 was the lowest.

All of the cities with higher rates except one were southern cities. It is recognized that the racial composition of the population in these cities is an important factor. The white rate alone, however, would still make Richmond rank 76 of the 92 cities while the colored rate would make it rank 70.

Table I shows, by race, the rates for twelve cities. These were chosen by starting with the lowest total rate and taking approximately every tenth city and its rate. As you can observe, Richmond has an overall rate of 36.9, with a white rate of 29.2 and a Negro rate of 49.5.

Table II lists the cities which have higher rates than Richmond and seven cities that are generally somewhat similar to Richmond as to population factors but which have lower rates. New York City is included in this group. In spite of the slums, Puerto Ricans, and Negro Harlem, it has managed through concerted effort to cut its total infant mortality rate to 25.4.

TABLE I
INFANT MORTALITY RATES FOR SELECTED CITIES OF THE UNITED STATES
1949*

City	*Total*	*White*	*Non-white*
Portland, O.	19.9	19.6	27.6
Kansas City, Kansas	23.0	22.8	23.8
Dallas, Texas	24.7	22.3	38.9
Los Angeles	25.7	24.5	32.1
Syracuse	27.1	27.6	11.6
Cincinnati	28.2	25	42.6
Chicago	28.4	25.8	39.3
Wichita	30.0	29.5	39.7
Tampa	31.4	28.7	42.9
Oklahoma	34.2	33.5	38.9
Richmond	36.9	29.3	49.5
San Antonio	45.7	46.4	34.9

*Selected from range of every tenth of the 92 cities having over 100,000 population.

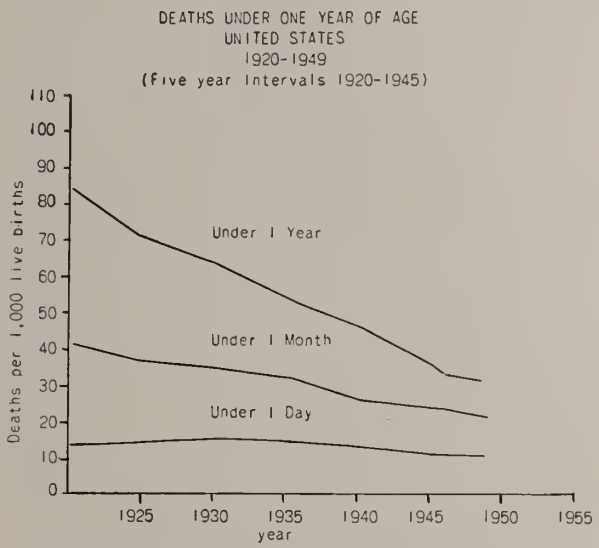
TABLE II
INFANT MORTALITY RATES FOR CITIES MOST COMPARABLE TO RICHMOND AND THOSE CITIES WITH HIGHER RATES
1949

City	*Total*	*White*	*Non-white*
New York City	25.4	23.4	37.6
Cincinnati	28.2	25.3	42.6
Washington	29.1	28.1	30.4
Baltimore	31.3	26.7	41.1
Memphis	35.1	27.2	45.4
Birmingham	35.1	26.7	45.6
Louisville	35.4	32.4	52.2
Richmond	36.9	29.3	49.5
Scranton	37.5	37.3	66.7
Norfolk	38.2	30.3	53.7
Chattanooga	38.2	33.4	49.6
Charlotte	38.9	25.0	70.
Atlanta	39.0	28.6	54.1
Knoxville	41.2	39.7	49.3
San Antonio	45.7	46.4	34.9

Neonatal mortality year after year constitutes a higher proportion of the total infant mortality. Chart I shows the death rate per 1,000 live births in the United States under one year of age, under one month, and under one day from 1920 to 1949. For

the United States as a whole, infant mortality has shown a marked decrease but the neonatal mortality has shown no such change.

Chart I



For comparison, Charts II and III show the death rates under one year of age and under one month for Virginia and for Richmond. The rate for 1949 was 31.5 for under one year in the United States and 38.2 in Virginia. For under one month it was 21.4 in the United States and 25.6 in Virginia. The neonatal rate in Richmond for 1949 was 29 as compared with 21.4 in the United States and 25.6 in Virginia.

Chart II

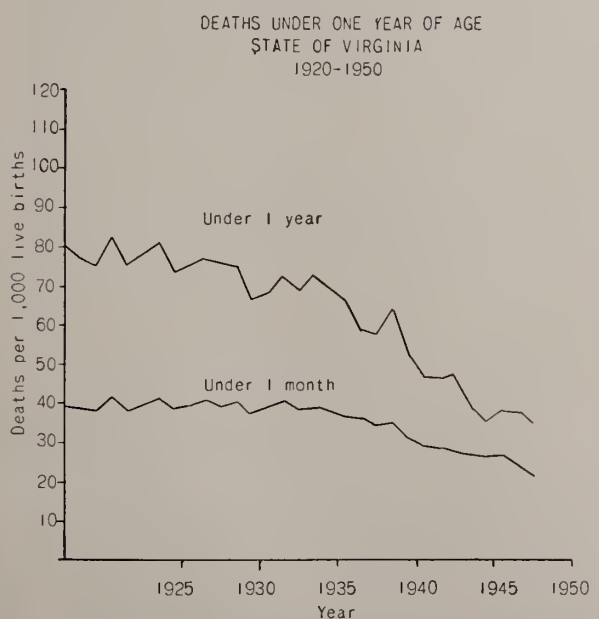
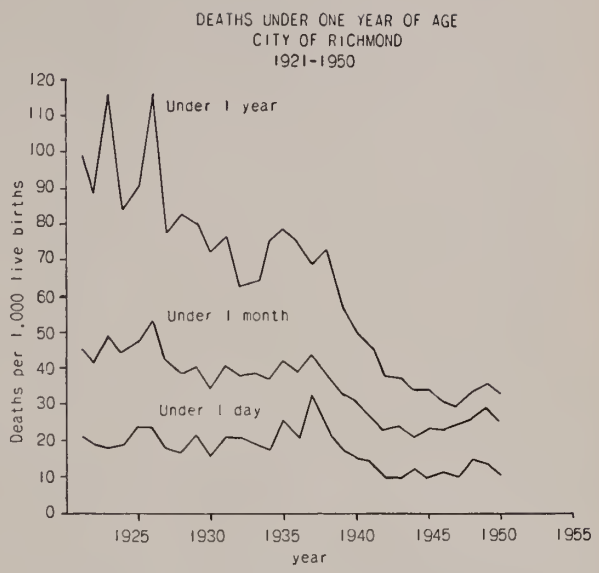
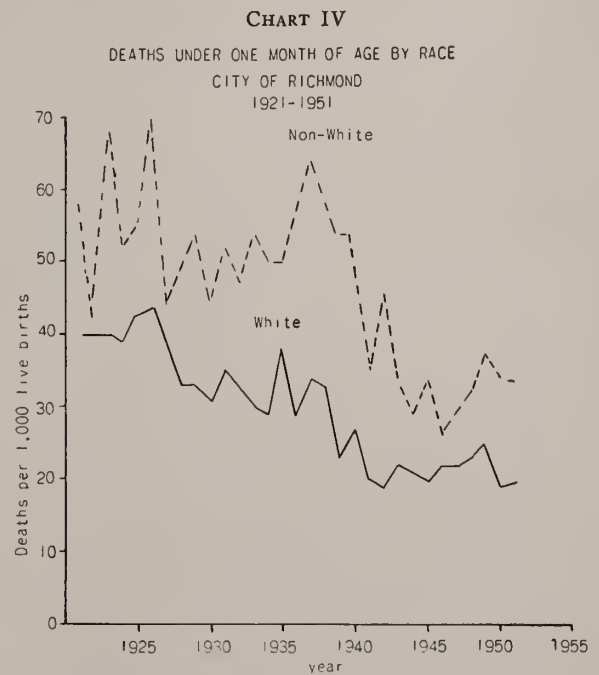


Chart III



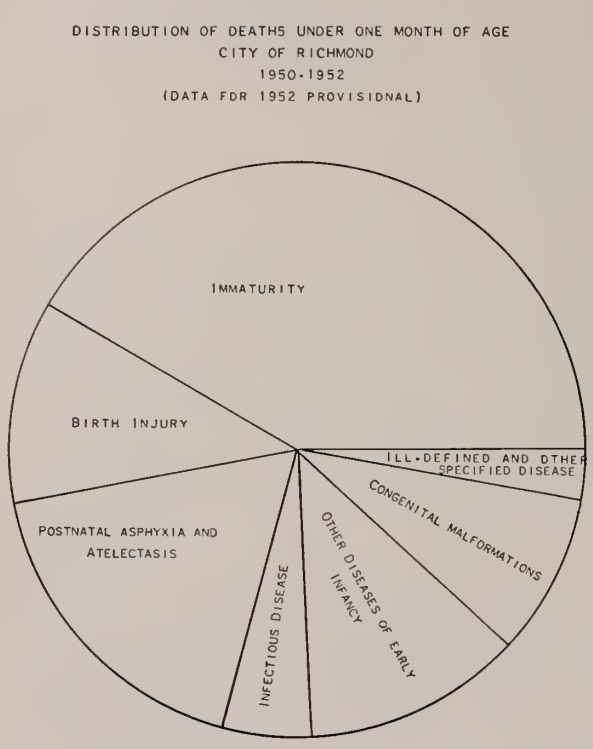
Since race is an important factor in neonatal mortality, Chart IV was made to show the neonatal death rate, by race, in Richmond from 1921 to 1951. The neonatal death rate in Richmond had decreased from 40 in 1921 to 25 in 1951 for the white race and from 58 in 1921 to 35.8 in 1951 for the Negro race.

Chart IV



What are the causes of these neonatal and fetal deaths? They have varied a great deal from year to year. Chart V shows the percentage distribution of the causes of death for 1950-1952. This gives

CHART V



the major cause as immaturity unqualified with 43.7%; postnatal asphyxia and atelectasis, 6.9%; birth injuries, 10.0%; congenital malformation 9%; other diseases of early infancy 10.7%; infectious disease 5.9%; ill defined and other specified diseases 3.6%. The immaturity mentioned includes only immaturity unqualified as the primary cause of death. It does not include instances in which birth injury or some other cause is shown as the primary cause with immaturity. In Dr. Potter's studies in Chicago for 1936-1949, she did not list immaturity unqualified in any instance. Briefly her chief causes were abnormal pulmonary ventilation 43.8%; malformations 15.4%; birth injury 15.1%; infections 14.3%; blood dyscrasias 5.1%; anoxia 4.1%; and miscellaneous 1.4%. Her figures are not exactly comparable because she qualifies every case of prematurity by giving it a specified cause.

Table III gives us the births, stillbirths and infant deaths for the city of Richmond for 1952 by individual hospital. This is based on provisional data because final reports are not available at this time. In comparing the mortality rates, only resident births are given. Because Richmond is a medical center

TABLE III

BIRTHS, STILLBIRTHS, AND INFANT DEATHS BY HOSPITAL IN WHICH BIRTH OCCURRED

CITY OF RICHMOND

1952*

HOSPITAL	Total Recorded Births (Live)	Total Resident Births (Live)	Total Resident*** Live Births Premature	% Resident Births Premature	Resident Stillbirths	Total Resident Deaths under 1 yr. of age	Total Resident Deaths under 28 days of age	Resident Deaths under 28 days of age associated with prematurity***	DISPOSITION**		
									Autopsy or Anat. Board	Buried no Autopsy	Unspec. as to Autopsy
TOTAL	9,662	4,669	482	10.3	113	170	116	83	74	20	22
Community	297	200	18	9.0	5	11	10	7	6	3	1
Grace	514	242	22	9.1	6	7	7	3	1	2	4
Johnston-Willis	1,332	373	28	7.5	10	7	4	3	2	1	1
M. C. V.	2,027	768	62	8.1	11	25	15	14	13	2	
Retreat for the Sick	896	424	43	10.1	7	8	8	7	5	1	2
St. Luke	816	307	23	7.5	5	12	12	7	4	2	6
St. Philip & Dooley	2,683	1,821	240	13.2	50	74	53	39	42	6	5
Sheltering Arms	316	167	12	7.2	1	0	0	0	0	0	0
Stuart Circle	609	243	24	9.9	5	5	4	2	1	1	2
Evangeline Booth	42	0	0	--	-	0	0	0	0	0	0
Not in Hospital	130	124	10	8.1	8	21	3	1	0	2	1
Unknown					5						

Per cent of resident births occurring in hospital—97.4%

* Provisional data. Resident data includes births to or deaths of residents occurring in the city of Richmond.

** Data taken from copies of death certificates on file in the City Health Department on persons under 28 days of age at time of death.

***Includes those weighing 5½ lbs. or less at birth, stated to be premature, or those for which the cause of death is associated with prematurity.

it would not be fair to include all the complicated deliveries that have occurred but were actually non-resident mothers. There were over 9,000 births recorded in Richmond in 1952 but only about 4,600 of them were resident births.

This year the immature births, by weight, comprised 10.3 per cent of total resident births for the city. Resident stillbirths were 113 or 2.3% of the resident live births. Total resident deaths under 28 days of age numbered almost the same as stillbirths. Ninety of the 113 stillbirths and 74 of the neonatal deaths went to the Anatomical Board or were autopsied. It was impossible to determine from the death certificates on file in the city health department how many of those who went to the Anatomical Board had postmortem examinations, so these two items were lumped together. Results from each hospital for the year 1952 show St. Philip Hospital has the highest per cent of premature births with 13.2% resident live births premature. Retreat for the Sick has the next highest with 10.1%.

This table also shows that 97.4% of the resident births in Richmond in 1952 occurred in the hospital. For the year 1949, at which time the mortality rates for Richmond were given in the first table, Richmond had 98.5% births delivered in hospitals as compared with 86.7% for the United States and 71.2% for Virginia.

Conclusions

No attempt to draw any conclusions from these figures can be made. They do, however, indicate that Richmond's infant mortality rate is still among the highest in the nation and that a high per cent of the deaths of these infants occur under 28 days of age. Immaturity is listed as the principal cause of neonatal death in Richmond and approximately 10% of the births in Richmond in 1952 were premature. The per cent of hospital deliveries in Richmond is above average, which should make the high mortality even more significant.

Summary

The fetal and neonatal mortality data available in the Division of Vital Statistics of the Richmond Health Department have been studied. These were presented in three ways:

1. Brief discussion of tables comparing Richmond's infant mortality with that of other cities of 100,000 population and over.

2. Charts showing neonatal and infant mortality for the nation, State, and city. An additional chart showing the primary causes of neonatal death in the city was included.

3. A table showing the infant mortality and incidence of prematurity by hospitals in the city of Richmond.

The following facts were pointed out to indicate that Richmond needs further study of its infant mortality:

1. Richmond has one of the highest infant mortality rates in the nation.
2. Neonatal death due to prematurity accounts for a high percentage of the infant mortality.
3. The fact that almost all of the deliveries in Richmond occur in hospitals makes this high mortality rate even more significant.

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SOLITARY DIVERTICULITIS OF THE CECUM SIMULATING ACUTE APPENDICITIS

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Diverticula are a frequent occurrence in the gastrointestinal tract; therefore, any differential diagnosis of an "acute abdomen" should include diverticulitis. In the younger age group, Meckel's diverticulitis is always considered, and, even in the presence of an inflamed appendix, unless the appendiceal pathology is prohibitive, should routinely be sought. In about 5% of such patients a diverticulum will be encountered. In the older age group, those over 40, diverticula of the large bowel are found with approximately the same frequency. When a patient of this age presents acute abdominal symptomatology, with localization on the left side ("left-sided appendicitis"), diverticulitis is strongly suspected. They are most common in the distal half of the colon, 75% said to occur in the sigmoid. Hence, diverticulitis is rarely considered on the right side, and is passed over lightly, or ignored, in the literature.

Diverticula of the colon may be classified as "true" or as "false". A "true" diverticulum includes in its wall all the usual coats of the bowel wall—the mucosa, submucosa, muscularis, and serosa,—and is usually solitary. The wall of the "false" type is lacking in muscularis; this type is usually multiple[8,18]. The "true" type is usually thought of as congenital, due to the incomplete luminal fusion of a segment of the primitive cecum with the remainder of the bowel during the period of vacuolization of the primitive entoderm; or it may be the "retention in some form of the appendix which develops early in embryological life but normally disappears before the true appendix appears"[12]. Traction diverticula, usually "true", but not necessarily congenital, may also appear in the colon. Dorling[9] has reported that they may be the result of scar tissue contracture in the mesentery during the stage of calcification of tuberculous lymph nodes. Greenfelder and Hilder[12] reported a case in which pericecal adhesions tented the bowel wall so as to form a diverticulum, correctable by simple adhesolysis. Wilson[2] feels that "traction exerted on the appendices epiploicae, mesentery, or omentum, with or without adhesions, may result in diverticulum formation." In the first instance, the diverticulum will be expected to be enveloped by an appendix epiploica.

"False" diverticula are usually acquired or traumatic, although the defect that leads to diverticulation may be congenital. The most commonly mentioned factors for these are an inherent weakness in the wall due to the ageing process, congenital weakness of the wall at the sites of vascular perforation of the muscularis, obesity, and atrophy of the fat along the nutrient vasa. Herniation may occur at the sites of vascular perforation if there is some minor added factor, as increased intraluminal pressure secondary to constipation[24] or traction on an appendix epiploica[2]. This would doubly account for the frequent location of the lesion along the borders of the longitudinal bands.

Rupture of an intramural abscess into the lumen of the cecum, as occurs after operative inversion of the appendiceal stump, may cause a weak spot in the muscularis through which a mucosal herniation may occur[12]. Bunts[4] felt that relaxation of the purse-string suture, followed by eversion of the inverted appendiceal stump, might lead to "false" diverticulum formation. This type of diverticulum would probably better be classified as a residual appendiceal stump, and infection in it as a stump appendicitis, rather than as diverticulitis. Greenfelder and Hilder[12] feel that the purse-string suture destroys the circular muscle fibers about the base of the appendix leading to a weakened area through which herniation may occur.

British authors feel that "false" diverticula of the cecum are the end result of ulcerative disease of the cecum rather than of mucosal herniation. They point out the occurrence of diverticula of the duodenum late in the course of peptic duodenal ulceration in support of their theory[9,10,26].

Diverticula of the large bowel, first mentioned in 1853 by Virchow[6], were described by Wilks in 1859 as "small pouches sometimes met with in the colon" which "often exist in great numbers, and are gen-

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erally not larger than a grape-filled with fecal matter"[15]. They may measure 1 mm. to 2 cm. in diameter, unless they become inflamed, in which case they may reach or exceed the size of an orange. They have a small neck which opens into a large, smooth-walled, feces-filled lumen. The feces in these pouches tends to be emptied poorly, becomes inspissated, and forms a fecalith which blocks drainage, leading to infection. The majority of patients with diverticula are asymptomatic, or have minimal symptoms requiring no treatment. However, 15% develop acute or chronic diverticulitis. Of these, 20% will require surgical intervention.

The actual incidence of diverticula of the cecum is not mentioned in the literature, but it is said to be rare. Inflammation of this "rare" lesion must, therefore, be a medical curiosity. However, there have been 137 patients with this disease reported in the British and American literature to date. In the analysis of these cases, it is found that 19% have been subjected to laparotomy without a preoperative diagnosis, 64% have been operated on with a preoperative diagnosis of some form of appendiceal pathology, and in only 3.6% has the correct diagnosis been mentioned before operation[1-25].

At operation, when the mass of inflammatory tissue has been seen and felt, carcinoma has been diagnosed in a number of cases, and these have been subjected to unnecessary radical resection without preparation, with an 11% mortality rate. In addition, 24 patients have been subjected to right hemicolectomy for this disease, because the correct diagnosis was not suspected, or because the lesion was not locally resectable. Despite the benign nature of the pathology, a few cases may require major resection because of their location[16].

Table I*

1. Age of Patients	average 38 years
	range — 10 to 72 years
2. Symptoms	
a. Pain in the RLQ	95%
b. Nausea	30%
c. Anorexia	24%
d. Constipation	16%
e. Vomiting	15%
f. Diarrhea	11%
g. Chills and Fever	6%
3. Signs	
a. Tenderness	86%
b. Spasm	48%
c. Rebound Tenderness	36%
d. Palpable mass	23%
e. Rectal Tenderness	16%
f. Leukocytosis	average 13,087
	range — 6,100 to 22,950

*Compiled from Cases Reported in the Literature.

Patients with cecal diverticulitis fall into an older age group than those with acute appendicitis, but as shown in Table I, the clinical picture is otherwise indistinguishable from that of appendicitis. The diagnosis is, therefore, made at the operating table.

In the age group over 40, the presence of a mass lesion in the cecum must first be thought of as carcinoma, rather than as diverticulitis. Prognostically, however, the differentiation is of great importance, and the treatment of the two is vastly different. Carcinoma may present itself in three different ways. First of these is the cauliflower mass which projects itself into the lumen of the cecum. It may be very large in size before it begins to show metastases. The second variety of cecal malignancy tends to grow by direct extension along the bowel wall or through it. The third and most malignant grows rapidly through the wall, presenting as a perforated mass with much glandular metastasis[19].

Other diseases which must be considered in the differential diagnosis of diverticulitis of the cecum include tuberculosis and actinomycosis, and non-specific granuloma and non-specific ulceration of the cecum.

Tuberculosis usually manifests itself by small subserous tubercles involving the cecum and terminal ileum, with large caseous lymph nodes and abundant adhesions. Actinomycosis begins in the cecum and appendix, leads to a generalized thickening of the bowel wall with, not infrequently, a draining abdominal sinus, discharging characteristic sulfur granules.

Non-specific granulomata of the cecum usually involve the terminal ileum as well, show a thickening of the wall, with a granular appearance of the serosa, marked mesenteric edema, and mesenteric adenitis. Non-specific ulceration of the cecal wall is as rare as is diverticulitis, and in the British literature is considered to be an early phase of the same disease.

Acute diverticulitis presents itself as an inflammatory mass localized to a relatively small portion of the cecal circumference from which it protrudes. It may be found within one of the appendices epiploicae, and is usually found bordering one of the longitudinal muscular bands of the colon. Palpation of

the mass through the opposite wall of the cecum will usually reveal a small opening into it, though this may be masked by the presence of a fecalith which frequently fills the diverticular lumen. This fecalith will be palpable through the wall of the lesion as a round, hard, smooth mass. Mesenteric lymphadenoid involvement may be present, but the nodes will be inflammatory rather than neoplastic or caseous.

CASE REPORTS

Case 1: J.K.M., a 31 year old man, was admitted to my service on 9-13-52, with a diagnosis by his referring physician of acute appendicitis. He gave a 2 day history of constant generalized abdominal "gas pains", accompanied by a marked increase in belching. On the morning of admission, the pain suddenly shifted to the right lower quadrant and became severe enough to double him up. He noticed no anorexia, nausea, vomiting, or other gastrointestinal symptoms. On examination, the abdomen was obese and soft, with tenderness in the right lower quadrant, most marked at McBurney's point. There was slight guarding and rebound tenderness, but no spasm. Rectal tenderness was absent. The leukocyte count was 15,000 with 77% neutrophils, and 5% band forms. A diagnosis of acute appendicitis was made and the patient was prepared for surgery.

At operation, through a routine transverse appendectomy incision, the appendix was found to be grossly normal. At the level of the ileocecal valve on the anteromedial border of the cecum bordering the anterior longitudinal muscular band, there was found a 4 cm. mass of inflamed appendix epiploica, presenting on palpation a 3 cm. firm, smooth, hot mass within it. On examination of the mass from within the cecal lumen, a 3 to 4 mm. orifice was palpable, entering the mass. A diagnosis of acute diverticulitis was made, and the mass was resected, removing a 2 cm. circular plug of cecal wall about the base of the diverticulum. The wall of the cecum was closed in layers with 00 chronic catgut and 40 cotton. Routine appendectomy was performed, after which the abdominal wall was closed in layers. The patient made an uneventful recovery. Barium enema on the tenth post-operative day failed to reveal other large bowel pathology. Pathological study of the specimen revealed acute inflammatory reaction in a "false" diverticulum of the cecum, of the type commonly seen in the sigmoid.

Here, the clinical picture was that of acute appendicitis, for which operative treatment was indicated and undertaken. On discovery of the true cause of the symptomatology, the simplest procedure for the removal of the offender was felt best, and was performed. The patient was treated post-operatively as for a simple appendectomy, and made an uneventful recovery.

The location of the lesion along the border of a longitudinal band, "false" in type, enveloped in an appendix epiploica, would seem to indicate this lesion to be the result of mucosal herniation through the muscularis at the site of vascular perforation[24] in combination with traction on an appendix epiploica[2].

Case 2: R.M., a 19 year old man, was admitted to a hospital in the USA on 7-5-52 with an 8 hour history of pain in the right lower quadrant without radiation. He had not been nauseated, but had noticed anorexia for five or six hours preceding the pain. He had had three normal bowel movements on the morning of admission. Examination showed the abdomen to be soft with point tenderness in the right lower quadrant but with no rebound tenderness, spasm, or palpable mass. There was rectal tenderness high on the right. The leukocyte count was 12,800, with 72% neutrophils, and 7% band forms. The patient was not felt to have a surgical disease of the abdomen, but was admitted for observation. Next day, there was point tenderness at McBurney's point and muscular spasm in that region. A diagnosis of acute appendicitis was made, and the patient was prepared for surgery.

At operation, a normal appendix was found, but there was encountered a "large inflammatory mass supermedially to the base of the appendix on the anteromedial border of the cecum", felt to be intramural. The opinion was that this was an acutely inflamed diverticulum of the cecum but that it should not be resected. Routine appendectomy was performed, and a cecostomy was done. He was placed on routine antibiotics. The cecostomy functioned well for three weeks, was discontinued and closed spontaneously in five weeks. Barium enema on the 17th day post-operatively showed an intramural mass on the medial aspect of the cecum. Two weeks later, this was not demonstrable.

The patient was returned to duty and was assigned to duty overseas, where he served as a Medical aid man with the Marines. Under these con-

ditions, the operative wound began to drain and became tender, with occasional episodes of moderately severe right lower quadrant pain, cramping in nature. Two weeks before admission to the Marine Division Hospital, he had removed a suture from the floor of the sinus tract, and the wound had healed rapidly, though the pain had continued to recur once or twice weekly. Examination on admission revealed a tender, freely movable, walnut-sized mass medial to the cecum which was palpable filled with gas at the time of examination.

The original clinical picture was questionable in this case, but, under observation, the clinicians felt that appendicitis could not be ruled out. With the increase in severity of symptomatology, operative therapy was felt necessary. The correct diagnosis was suspected when the lesion was visualized, and a conservative regimen was decided upon.

Six months later, the patient was again admitted to a hospital for his symptoms. He still had the offending lesion with him. Operative treatment, with removal of the diverticulum, will be necessary for this man, although a reasonable trial of the conservative regimen originally begun will be continued for a time.

The treatment of this entity should consist of the simplest method of extirpation feasible in the individual case. Unlike sigmoid diverticula, those of the cecum occur as solitary lesions; hence, local resection is usually curative. Many methods of removal have been advocated. The simplest is inversion of the diverticulum through a purse-string suture. The tip of the pouch should be perforated to provide adequate drainage during the period of sloughing, or the major portion of the sac may be removed and the cuff only be inverted. In those instances where there is marked induration and friability of the diverticular wall, this cannot be done with safety.

The most common procedure is the complete removal of the pouch along with a small disc of the surrounding cecal wall, followed by linear closure of the cecum. This technique is usually adequate, and can be performed with ease in most cases. Postoperatively, these patients progress well, as if after appendectomy alone.

In occasional instances, resection of the cecum may be necessary, due to the extensive involvement of that viscus by inflammation and diverticulo-cecal adhesions. However, if careful dissection is undertaken, this should not become a necessity. This procedure should be reserved for those cases in which simple diverticulectomy, because of the location of the lesion, would embarrass the cecal blood supply.

Right hemicolectomy, though it has been performed in a large number of the reported cases of diverticulitis, has been done in most instances in those cases in which the diagnosis of carcinoma has been made. In only one case has it been done despite a diagnosis of diverticulitis. In that case, the operator felt that local excision of the lesion would embarrass the blood supply of the cecum and ascending colon[19]. A sidetracking procedure, such as ileo-transverse colostomy, has been done[1,19] and seems to be a far safer measure than hemicolectomy in these unprepared patients. Right hemicolectomy can then be deferred till the patient has been prepared.

Summary

Diverticulitis is a relatively rare disease of the cecum which may be congenital in origin, or may result from herniation of the mucosa through the muscularis.

The clinical picture is indistinguishable from that of acute appendicitis. At operation, an inflammatory mass of the cecum is encountered which has frequently been confused with malignancy, resulting in major resection of the large bowel without preparation. If this entity had been considered, and the cecum examined with it in mind, these procedures, with their increased mortality risk, could have been avoided.

Two additional cases of diverticulitis of the cecum have been reported.

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NOTE. Dr. Kirk was released from the Navy at the end of June 1953 and located in Roanoke, Virginia. He is at present at 807 - 11½ Street, S.W., Rochester, Minn.

Music Proved a Therapeutic Aid.

"In acutely ill patients music often produces effects of sedation and reassurance, while in chronically ill patients music is able to divert the mind during long periods of convalescence and enforced rest," it was stated editorially in the September 19, J.A.M.A.

"Patients with tuberculosis, rheumatic fever, malignant tumors, neurological diseases, orthopedic disorders and many other chronic ailments frequently discover that music helps while away tedious hours and removes flights of the imagination to more pleasant and relaxing spheres of thought. This can be accomplished with the aid of background music, records, books, musical instruments and singing.

"Since almost all children enjoy music that is tuneful, accompanied by simple words, and that relates a story, music is especially applicable as a therapeutic modality for the juvenile audience. It is useful as a vehicle accompanying games, and it also provides a pleasant distraction from the disturbing cries that invade pediatric wards of hospitals. It is of particular value to chronically ill children who are required to stay in bed for long periods of time."

Music is a useful adjunct to physical therapy, the editorial pointed out. Mentally defective persons are more easily handled when soothing, rhythmic music is performed, and it has been found in dentistry that music allays anxiety, raises the pain threshold, and improves the doctor-patient relationship. Some obstetricians use music to allay anxiety and raise the pain threshold during arduous hours spent by patients in the labor room.

It also has been observed, the editorial added, that music in the operating room serves as a beneficial adjunct to the administration of local, regional, or spinal anesthesia, and that it diminishes apprehension in patients.

MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department Mental Hygiene and Hospitals

Mental Deficiency As A Community Problem*

Although much has been written about the problem of the mentally deficient, few physicians and even fewer pedagogues are apparently aware of the extent and scope of this community problem. Feeble-mindedness is undoubtedly far more widespread than is commonly realized by either group. There are probably no less than 500,000 individuals in this country alone who have definitely been determined to be feeble-minded[1]. It is estimated that an equal number, as yet unrecognized, swell the ranks of those children labeled as "learning" or "behavior problems". When one stops to consider the magnitude of this group, and the obvious futility of attempting to educate them to a level which is beyond their native capacity, the need for an increase in our diagnostic acumen, as well as a reorientation of our educational facilities becomes obvious; in that only a small proportion of defectives belong in permanent institutions, the burden of this responsibility is primarily that of the local community.

Although adequate facilities for the clinical evaluation and psychological testing of these children are seldom available in the average practitioner's office, the state-wide system of Mental Hygiene Clinics now in operation in Virginia is well equipped to assist in the diagnostic evaluation and, in some cases, treatment of such children. The diagnosis and accurate evaluation of these individuals could do much to improve the lot of the borderline cases, as well as materially assisting our school system in the more efficient utilization of its over-taxed facilities. The futility of attempting to introduce a mildly defective individual to the complexities of fifth grade arithmetic is apparent to even the uninitiate, yet this is undoubtedly being done at this very moment. Such an unnecessary expenditure of academic energy serves to promote further maladjustment on the part of the defective individual in that he is called upon to meet an environmental demand which is beyond his native ability. It also becomes a distinct detriment to the education of his more adequately endowed classmates; like the mothers of handicapped children, many teachers will allot an undue proportion of their time and emotional energies to the care of the retarded or deficient child at the expense of children who are far more suitable educational candidates.

*Article prepared by William M. Sheppe, Jr., M.D., Staff Psychiatrist, Portsmouth Area Counseling & Guidance Clinic, Portsmouth, Virginia.

The Diagnosis of Mental Deficiency

Although the intelligence quotient is frequently utilized as a primary point of reference in the diagnosis and classification of mental deficiency, such a diagnostic tool may prove to be quite misleading if relied upon too heavily or to the exclusion of performance tests, projective techniques and the clinical impression of a competent diagnostician. Often, it is impossible to arrive at an adequate diagnosis on the basis of a single set of tests. Lack of cooperation, language or communicatory defects, even simple fear or apprehension may all conspire to invalidate any given test. Even under the best of circumstances, serious errors in the differentiation of *mental retardation* (i.e., emotional interference) from *mental deficiency,* the latter representing an "absolute" or "permanent" defect in contrast to the former, are often encountered. Gardner Murphy[2] has reported the case of a child whose intelligence quotient was initially estimated to be 65 but was eventually found to be 147 some years later! As in somatic medicine, laboratory findings must always be interpreted in light of the *total* clinical picture and the over-all impression of the clinician.

It is of equal importance that the examining physician make some estimate of the individual patient's emotional status with particular attention to his capacity for self-control and the extent of his emotional maturity. Strange as it may seem, many well adjusted and emotionally mature individuals of mild deficiency may function far more productively and adequately (even to the point of becoming a definite community asset), than individuals of normal intelligence whose emotional problems are of such severity as to make them a distinct community liability. It has been estimated that only about 5% of all mental deficients become delinquent or engage in criminal behavior. The presence or absence of any special abilities or "natural gifts", particularly those which

might be utilized in making the patient self-supporting, are also of considerable importance in estimating a given individual's capacity to meet the demands of his environment and to function, at least to a degree, autonomously.

Although walking and talking are the chief earmarks of the child's development, many normal children will show considerable variation in the age at which these capacities are acquired. In general, however, the average child is able to recognize members of his family, to follow moving objects with his eyes, and to balance his head when sitting up, by the age of six months. At the twelfth month level, he is usually able to say simple words and to sit up or stand without being supported. At the age of eighteen months most children can walk without assistance, climb stairs on all fours and follow simple instructions. By the time he has reached two years of age, he is usually able to put short words into simple phrases and to have developed enough intellectual inquisitiveness and psychomotor coordination to become a distinct menace to any family heirloom which is not securely bolted to the floor or placed well out of his reach. A careful history, with particular reference to the child's early development and growth, may thus afford the examiner considerable insight into the time of onset of the deficiency, its association with trauma, infections processes or dietary deficiencies. A complete family and sociological history also is essential if one is to determine the pathological physiology of the process, be the latter of hereditary, congenital or of acquired origin. A detailed neurological evaluation with recourse to any of the special studies thereby indicated (EEG and pneumoencephalogram in cases of suspected cortical atrophy or cerebral neoplasm, spinal fluid serology where the possibility of juvenile paresis exists, basal metabolism and/or iodine up-take if cretinism or myxedema are diagnostic possibilities, etc.) complete our diagnostic armamentarium.

The Classification of Mental Deficiency

True mental deficients are usually classified into one of three sub-groups, the specific diagnosis depending primarily on the degree of intellectual deficiency or the mental age at which the patient is able to function. Recent objections have been raised to the terms "idiot", "imbecile", and "moron" in that the latter are primarily legal terms, comparable to "insanity", with little real meaning in clinical psychiatry. They have the further fault of being based upon psychological testing alone. In the latest revision of psychiatric nomenclature prepared by the Committee on Nomenclature and Statistics of the American Psychiatric Association, degree is indicated by the terms "mild", "moderate", and "severe". No I.Q. limit has been set for these qualifying terms as it is believed that such an arbitrary usage of a variable measure is not justifiable in clinical work. In general, *mild* refers to functional (vocational) impairment as would be expected with I.Q.'s of approximately 70 to 85. *Moderate* is used for functional impairment requiring special training and guidance, such as would be expected with I.Q.'s of about 50 to 70 (mental age of approximately seven to twelve years). This group therefore roughly corresponds to the sub-group previously designated as moron. With careful and patient training, these individuals may be taught to perform many manual tasks quite efficiently, but are generally noted for their inability to reason on the basis of experience or to grasp new material readily. It has been estimated that only 10% of all defectives require permanent institutional care if adequate rehabilitative facilities are available. *Severe* mental deficiency refers to functional impairment requiring custodial or complete protective care as would be expected with I.Q.'s below 50 (mental age of seven years or less). Defectives who fall within this group are, in general, far better off in an institution or colony with children of their own mental age. Not only is the average home poorly equipped to supervise them and to develop their limited capacities to an optimal degree, but their continuing presence in a home with normal siblings may be extremely detrimental.

Management

Although the true mental defective is basically incurable, much can be done to alleviate the otherwise unfortunate plight of these individuals and, in certain cases, to transform a ward of the state into a self-supporting and respected citizen. One of our primary deficits at this time is the current lack of adequate training and educational facilities whereby many of these "hopeless cases" may be taught a simple, but remunerative trade, and encouraged to develop a stable and mature concept of self which is sufficient to withstand the stresses of an otherwise impossibly complex world. Although it is certainly true that many of the lower groups are best managed

by permanent institutionalization, a considerable number could be made almost entirely self-supporting if given proper training and support during their earlier years. Unfortunately, our public school system still penalizes the handicapped child, as well as the exceptional student, in that it is geared almost entirely to the level of the average or "normal" individual. Much of the subject matter currently offered is not only completely beyond the feeble-minded child's comprehension, but would prove of little or no value to him even if, by some cybernetic wonder, it could be assimilated. The popular delusion that *all* children can best be educated to the art of rich and productive living via a single educational system is about as logical as insisting that we all wear the same size shoe, regardless of our individual anatomical variations or psychological inclinations. Similarly, the average teacher is poorly equipped and inadequately trained to cope with the specialized problems encountered in the education and supervision of the mentally deficient. The institutions for the defective currently in operation, laudable though their efforts may be, are grossly inadequate to meet current demands; a brief visit to either of our two state colonies at Lynchburg or Petersburg is enough to convince even the most disinterested observer of the inadequacy of our current rehabilitative program. Such lamentable conditions will undoubtedly persist until the medical profession is able to arouse public conscience to the point of legislative action.

Although there has recently been considerable interest in the use of glutamic acid to promote intellectual functioning in feeble-minded children, Zabarenko and Chambers[3] were unable to demonstrate any significant gain in mental functioning following its utilization. Although Schwoebel reported an "increased impetus in thought, motor activities and attention", he also noted that "intelligence remained uninfluenced".[4]

Summary

1. The socio-medical implications and the magnitude of the problem presented by the mentally deficient have been briefly discussed.
2. The need for the increased utilization of the diagnostic facilities of the Mental Hygiene Clinic system by referring physicians and school authorities alike as well as the necessity of expanding currently operant institutional and educational programs have been noted.
3. Salient nosological and diagnostic features have been briefly summarized.
4. It is felt that a more progressive and humanitarian approach to this problem is indicated.

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New Books.

We list below some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, which are available to our readers under usual library rules.

Altschule—Bodily physiology in mental and emotional disorders. 1953.

Anderson & Anderson—Communicable disease control. 3d ed., 1953.

Bailey's textbook of histology. 13th ed., 1953.

Bakwin & Bakwin—Clinical management of behavior disorders in children. 1953.

Galloway—Treatment of respiratory emergencies, including bulbar poliomyelitis. 1953.

Gordon & Lisser—Endocrinology in clinical practice. 1953.

Hart—Congenital dysplasia of the hip joint and sequelae in the newborn and early postnatal life. 1952.

Karpf—The psychology and psychotherapy of Otto Rank. 1953.

Kinsey—Sexual behavior in the human female. 1953.

Lichtman—Diseases of the liver, gallbladder and bile ducts. Vols. 1 & 2, 3rd ed., 1953.

Meyer—Essentials of infant feeding for physicians. 1952.

Newton—Geriatric nursing. 1950.

Noyes—Modern clinical psychiatry. 4th ed., 1953.

Progress in neurology and psychiatry. Vol. 3, 1953.

Stroud—Diagnosis and treatment of cardiovascular disease. 4th ed. 1952.

MEDICO-LEGAL NOTES

Medico-Legal Evaluation of Blood-Alcohol Levels

The following information is presented with the hope that it will be useful when questions arise pertaining to the relationship between blood-alcohol values and the condition referred to as "being under the influence", especially as related to ability to operate motor vehicles safely.

1. *Actions:*

Ethyl alcohol is basically a central nervous system depressant, acting in a manner similar to that of the general anesthetics such as ether and chloroform.

2. *Absorption:*

Alcohol requires no digestion, and absorption occurs apparently by simple diffusion from the stomach and intestines into the blood stream. This diffusion is so rapid that from 80-90% of the ingested quantity may be absorbed in about 30 minutes, although complete absorption requires approximately 2 hours. Of the order of 20% is absorbed from the stomach and the remainder from the small intestine. A delay in gastric emptying time is a most important factor in slowing the rate of absorption. Largely because of this, speed of absorption may vary between individuals and in the same individual at different times. Ordinarily the most important factor in delaying absorption is the presence of food; carbohydrates and proteins being equally or possibly more effective than fats in this respect. The concentration and nature of the alcoholic beverage are also influencing factors; for instance, the alcohol in beer is more slowly absorbed than that in an equal concentration in water.

3. *Fate:*

Approximately 90% of the alcohol absorbed is completely oxidized to CO_2 and water. The initial stage of this metabolism begins in the liver, hence the possible effect of liver disease on the intensity of the alcohol activity. The remaining 10% is eliminated unchanged chiefly by the lungs and kidneys. Normally the body destroys and eliminates alcohol at a rate equivalent to 2/3 oz. of whisky per hour. In terms of changes in the blood-alcohol percentage this corresponds to a decrease of approximately 0.02% per hour.

4. *Individual Tolerance:*

This depends upon congenital or acquired tissue (brain) susceptibility, rate of absorption, rate of elimination, age, and the general medical condition of the subject. Individuals in ill health, mentally or physically, are usually more profoundly affected by alcohol than those in a state of good health.

5. *Usual Methods of Testing:*

Direct determination of the concentration of alcohol in the blood by chemical analysis is the most reliable practical method. Indirectly, blood-alcohol levels may be reasonably well determined by analysis of the expired air for alcohol.

6. *Synergisms:*

Subjects taking depressant drugs such as the barbiturates, morphine and chloral hydrate concomitantly with alcohol will be more markedly affected than otherwise. Such drugs should be used with special care in the presence of alcohol.

7. *Signs and Symptoms:*

Alcohol brings about a release from the usual restraints and inhibitions. As a result there is the appearance, initially at least, of stimulation. Actually, this is a pseudo-type of stimulation. Depending on the amount taken, there is a sense of security, feeling of being a "superman", a nothing-matters-plenty-of-time attitude, hilariousness and boisterousness. Judgment, reflexes, vision, mental efficiency and muscle coordination suffer. There is analgesia, mental confusion, slow and sluggish thinking, decreased efficiency in responding to emergency situations and inability to perform simple tasks with usual speed and accuracy.

8. *Interpretation of Blood-Alcohol Values* (largely from National Safety Council Memo No. 29):

Less than 0.05% = prima facie evidence that the subject *is not* under the influence of alcohol.

0.05%-0.15% = corroborative evidence to be considered with outward physical symptoms. In general, the nearer the level of 0.15% is approached, the more likely the subject is of being under the influence of alcohol.

0.15% and above = prima facie evidence that the subject *is* under the influence of alcohol insofar as the operation of a motor vehicle is concerned.

0.25% and above = the subject is markedly intoxicated.

0.40% and above = comatose levels of alcohol which may lead to death.

9. *Approximation of Alcoholic Beverages to Reach Given Blood-Level:*

A 12 oz. bottle of beer (4%) contains approximately the same alcohol content as 1 oz. of whisky (100 proof). For an average 160 lb. individual* tested within 30-45 minutes after drinking; a *minimum* of:

2 oz. whisky = 0.05% alcohol in blood
4 oz. whisky = 0.10% alcohol in blood
6 oz. whisky = 0.15% alcohol in blood
8 oz. (½ pint) = 0.20% alcohol in blood

*Other things being equal the greater the body weight the larger (in rough proportion) must be the alcohol intake to achieve an equal alcohol value.

Contributed by: Sidney Kaye, B.S., M.Sc., Toxicologist, Office of Chief Medical Examiner, and Harvey B. Haag, M.D., Professor of Pharmacology, Medical College of Virginia.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President.....Mrs. Kalford W. Howard, Portsmouth

Southwestern Auxiliary.

The fall meeting of the Woman's Auxiliary to the Southwestern Virginia Medical Society met at Maple Shade Inn, Pulaski, September 17, with Mrs. James P. King of Radford, presiding. Twenty-seven members were present. Mrs. D. S. Divers welcomed the members to Pulaski.

Increased membership, nurse recruitment and public relations were again stressed in the business session. Each member was asked to list her activities in clubs and organizations.

Delegates appointed to the Auxiliary of the Medical Society of Virginia for the October meeting in Roanoke were: Mrs. Joseph Coates, Galax; Mrs. T. E. Painter, Radford; Mrs. C. F. Manges, Blacksburg; and Mrs. Richard Potter, Marion.

The following officers were elected and installed: president, Mrs. C. C. Hatfield, Saltville; president-elect, Mrs. M. C. Newton, Narrows; vice-president, Mrs. F. C. Bedsaul, Floyd; secretary, Mrs. R. L. Hillman, Emory; corresponding secretary, Mrs. P. W. Cowherd, Saltville; and treasurer, Mrs. James Chitwood, Pulaski.

The members were entertained by the Pulaski ladies, and a banquet followed with the members of the Southwestern Virginia Medical Society.

Resolutions for the Late Mrs. L. Benjamin Sheppard.

With feelings of deepest regret the Woman's Auxiliary to the Richmond Academy of Medicine must record the passing of one of its most distinguished members, our beloved and respected associate, Mrs. L. Benjamin Sheppard, who died on July 8, 1953.

Because we realize the fullest extent the benefits which our Auxiliary and the entire community have derived from the work of this public spirited woman, and because of the warm personal feeling inspired in our hearts by her kindly unselfish life; be it

Resolved, That we inscribe upon our records this tribute to her memory, that future generations may know and appreciate her splendid Christian character, her many benevolent deeds, and the respect and esteem in which she was held; and

Resolved, That a copy of these resolutions be transmitted to the family of our deceased associate, together with the assurance of our sincerest sympathy. May our Heavenly Father console them in their sorrow and may these words of appreciation and high regard be a solace in the years to come.

(Mrs. Hawes) Ellie C. Campbell

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Brucellosis.

Brucellosis must be included in differential diagnostic problems. Physicians have gradually become aware that many patients suffering from a disease resembling typhoid, malaria or tuberculosis may actually have Brucella infection. The symptoms of acute brucellosis are more suggestive than those of the chronic form and the diagnosis is more readily made. However, a high index of suspicion of brucellosis on the part of the physician is most helpful in reaching the diagnosis.

The development of two cases of brucellosis at one of the State Farms illustrates both the possible long incubation period and the delay in diagnosis that may occur. Toward the latter part of June it came to the attention of the State Health Department that agglutinations by the sera of these two men were positive in dilutions through 1:3200. Both were young colored males. A visit was made to the Farm in question and it was found that a plan for control of brucellosis in the cattle had been adopted some time ago and that the herd had been tested in June, 1952, at which time two reactors and eight suspects were discovered. The reactors were slaughtered and the suspects were separated. A re-test was made in November of the same year and there were no reactors. Because of the illness of these two men the herd was again tested in June, 1953, though, under Plan A, they would not have been tested until November. Two suspects were found in the beef herd in a titer 1:50, and none in the dairy herd.

Since this fairly well ruled out the cattle as the source of infection, inquiry was made as to the health of the swine. It was learned that there was some illness among the drove at that time which was diagnosed as hog cholera. It was stated that both men had taken part in slaughtering the hogs during the winter months and had been the men who did the gutting. Both men had received cuts on their hands in the process. No history of sickness prior to the onset of the present illness, about three weeks before, could be elicited. Cultures of the blood of these patients yielded organisms that were identified as Br.suis and confirmed the opinion that the infection had been from the hogs.

A few weeks ago the State Laboratory reported a positive agglutination for Br.abortus by the serum from the blood of a patient in a dilution 1:200. Inquiry brought out the fact that this was considered to be a clinical case of brucellosis and that for two months before the doctor had seen him he had been treated for influenza. Two other people on the farm decided to have their tests made, though they were feeling fine, and both were positive in serum dilutions 1-240. A reactor was found in the herd and the cow was disposed of.

The incubation period of brucellosis is usually from 6 to 30 days, commonly 14 days, but occasionally the latent period between the time of entrance of the organisms into the body and the appearance of symptoms may be as long as 4 to 5 months. The onset may be abrupt or it may be insidious. Weakness is a very constant symptom. In over half the cases there is enlargement of the cervical and axillary lymph nodes. The spleen is enlarged in approximately one-third of the cases. Pain in the muscles of the back of the neck is a common complaint. There is loss of appetite, elevation of temperature 100 to 104 degrees, irritability and mental depression. Visual disturbances are not uncommon.

It is highly important to reassure the patient and to encourage him as to his ultimate recovery. Weakness is a prominent symptom and rest is necessary. The use of aureomycin in treatment has given excellent results and it is not necessary to hospitalize the patients. Aureomycin in a dose of 0.5 gms is given orally every six hours for ten to fourteen days and may be repeated if advisable. Many cases respond favorably with only one course of treatment.

Brucellosis is more often found among those handling domestic animals that serve as reservoir, such as cattle, swine and goats, or their carcasses. Less frequently it occurs as the result of taking into the body milk that has come from infected animals. Elimination of the disease will come with its eradication among animals serving as a reservoir and by legislation requiring pasteurization of milk destined for human consumption.

Monthly Report of the Bureau of Communicable Disease Control

	Sept. 1953	Sept. 1952	Jan.-Sept. 1953	Jan.-Sept. 1952
Brucellosis	10	6	48	33
Diphtheria	7	17	63	73
Hepatitis	199	69	1846	552
Measles	44	45	4605	15435
Meningitis (Meningococcic)	11	6	155	152
Poliomyelitis	141	174	597	516
Rocky Mt. Spotted Fever	6	12	56	74
Scarlet Fever	14	12	658	559
Tularemia	1	8	23	42
Typhoid & Paratyphoid	13	3	62	71
Rabies in Animals	20	25	348	372

BOOK ANNOUNCEMENTS

Fool's Haven. By C. C. CAWLEY. House of Edinboro, Publishers, Boston, Mass. 1953. 210 pages. Cloth. Price $2.75.

Living With A Disability. By HOWARD A. RUSK, M.D., and EUGENE J. TAYLOR. In Collaboration with Muriel Zimmerman, O.T.R. and Julia Judson, M.S. The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center. The Blakiston Company, Inc., Garden City, New York. 1953. 207 pages. Illustrated. Cloth. Price $3.50.

New and Nonofficial Remedies. Containing Descriptions of the Articles which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1953. Issued under the Direction of The Council on Pharmacy and Chemistry. Philadelphia, J. B. Lippincott Company. 1953. xlviii-623 pages. Cloth.

May's Manual of the Diseases of the Eye. For Students and General Practitioners. Twenty-First Edition Revised and Edited by CHARLES A. PERERA, M.D., Associate Clinical Professor, College of Physicians and Surgeons, Columbia University, New York; Attending Ophthalmologist, Presbyterian Hospital, New York. Baltimore, Williams & Wilkins Company. 1953. viii-512 pages. With 378 Illustrations, Including 32 Plates, with 93 Colored Figures. Cloth. Price $6.00.

Once a scientific book reaches 21 editions and has been translated into eight different languages, with several editions in each one of them, very little is left for any reviewer to say about it, because the number of editions speaks for itself. However, when this is the book with which the reviewer established his first contact with Ophthalmology and got interested in this field, then the fact of reviewing it obtains a sentimental value and is like a demonstration of gratitude for the author, who with his book has attracted, without doubt, many physicians all over the world to the field of Ophthalmology.

In this new edition the main purpose of the book, to make it useful for students and general practitioners, has been fully maintained. The first 3 chapters deal with the examination of the eye, well brought up to date.

The next 16 chapters are dealing with the pathological conditions most often encountered in the different ocular structures, with a brief mention of some of the less common affections. A brief anatomical review introduces each new ocular structure. Problems of amblyopia, refraction and ocular motility are dealt with in chapters 20-24. The last two chapters are dedicated to Ocular Therapeutics and Ocular Manifestations of General Diseases. An appendix of Ocular requirements for admission in the Armed Forces constitutes the final part of the book. A very excellent index makes any reference extremely easy.

25 of the old colored plates have been replaced by new ones and we hope that the next edition will bring a replacement also of the few old plates which are still left in this edition.

The treatment with antibiotics, especially with Chloromycetin, the ocular application of Cortisone and ACTH could be emphasized more, at the expense of some of the older therapeutic measures not any more in general use. The chapter on treatment of cataracts lacks a mention of the new operation of introduction of an acrylic lens into the eye, which seems to become more popular among ophthalmologists the world over. But all these are minor defects, due probably to the fact that Ophthalmology, like any other field in Medicine is growing so fast, that it is difficult to introduce every new idea or treatment in a book.

Following all the reviewers of this book, for the past 53 years, we very heartily recommend this book to all, students, general practitioners and ophthalmologists, for whom to read again this old, familiar book, will be very delightful.

W.M.

EDITORIAL

Our New President—Dr. Archer

THE Medical Society of Virginia is indeed fortunate in having Dr. Vincent W. Archer as its next President.

Dr. Archer was born August 3, 1895, at Berwyn, Illinois. He married Miss Kate Eleazer, a very charming South Carolinian. They have two children, Vincent W. Archer, Jr., and Mrs. W. W. Clegg. The grandchildren are Vincent W. Archer, III, and W. W. Clegg, II.



VINCENT W. ARCHER, M. D.,
President, The Medical Society of Virginia

Dr. Archer attended Guilford and Davidson Colleges and received his B. S. from the University of Virginia in 1920. He was graduated from the Medical Department of the University in 1923, and was a Diplomate of The American Board of Radiology, Founders Group, in 1924. He has contributed much to medical science and has received many honors:

Head of Department of Roentgenology, University of Virginia since 1924

Ex-Councilor and Chairman, Council Southern Medical Association

Ex-Chancellor and Chairman three years, Board of Chancellors, American College of Radiology

Ex-President, Virginia Radiological Society, Albemarle County Medical Society, Piedmont Medical Society

Judge Scientific Exhibits American Medical Association two years, one as Chairman

Co-Founder and Ex-Chairman of Board, Virginia Medical Service Association

Ex-Chairman Executive Council, American Roentgen Ray Society

President-Elect and Ex-Councilor, The Medical Society of Virginia

President, University of Virginia Medical Alumni Association

Delegate, House of Delegates, American Medical Association

Member, American Medical Association Committee on Federal Medical Services

Executive Committee, Virginia Council Health and Medical Care

Honorary Member: British Institute of Radiology; Texas Radiological Society; St. Louis Academy of Medicine; Panama Radiological Society; Detroit Radiological Society

Author: Book "The Osseous System" and about 35 medical papers; Bronze Medical American Medical Association 1930; Certificate of Merit American Medical Association 1930; Silver Medal American Roentgen Ray, 1949; First Award, Southern Medical Association and The Medical Society of Virginia, 1949

Inventor: Lead Glass Fabric for fluoroscopic gowns

Membership in Honorary Societies: Phi Beta Kappa, A.O.A. Sigma Xi, Raven

Dr. Archer is a fine man and an outstanding Radiologist. He has been particularly interested in the welfare of The Medical Society of Virginia for years, and all of us who know him and his work, feel sure he will make an excellent president.

F.M.H.

Alexander Gustavus Brown, Jr., M. D., A. B.

DR. Alexander Gustavus Brown, Jr., who died September 16, 1953, after a brief illness, was born August 31, 1873, in Ashland, Virginia.

He was the son of Alexander Gustavus Brown and Frances Cooksey Brown. His father was secretary of Randolph-Macon College for a long time and likewise treasurer of the Methodist Conference until his death.

Dr. Brown received his preliminary education at the Public Schools in Richmond, Danville and Norfolk, Virginia, and was graduated with the degree of Bachelor of Arts from Randolph-Macon College. From there he entered the University College of Medicine, where he graduated in 1898. He served one year as interne at the Richmond City Hospital, after which he engaged in the practice of medicine in Richmond.

He was married December 11, 1901, to Miss Kate Marion Upshur, by the Reverend Dr. Smith, rector of St. Margaret Church, Washington, D. C.

He was Professor of Practice of Medicine at the University College of Medicine until it merged in 1913 with the Medical College of Virginia, where he was elected Associate Professor of Medicine. He was Editor of the Virginia Medical Monthly for 14 years, after which he resigned. He was also an Honorary Member of the Richmond Academy of Medicine and the Medical Society of Virginia, the Southern Medical Association and the Tri-State Medical Association. He served with the rank of Captain in the Virginia Militia Artillery as a volunteer in 1912 and 1914, and also served on the Draft Board in Richmond in World War I.

He was a member of the National Board of Internal Medicine. He served as President of Stuart Circle Hospital, and was a member of the Staff of Internal Medicine. He belonged to two fraternities, Phi Kappa Sigma and Pi Mu, later absorbed by Phi

Chi medical fraternity. He was Past Master of the Masonic Dove Lodge 51. He was a Honorary Governor General of the Society of Colonial Wars, and a member of the Society of the Cincinnati in the State of Virginia. He was a former President of the Sons of the Revolution in Virginia. He was also a member of the Commonwealth Club and the Country Club of Virginia. He was a Life member of the Virginia Historical Society and served on the Executive Committee of the Society.

He was a Life member of the Virginia College of Physicians, American Medical Association, The Medical Society of Virginia and the Richmond Academy of Medicine. He was a member of St. James' Episcopal Church, Richmond, Virginia.

One of his intimate friends in discussing his character said, he had one attribute that could be defined by one word, "Solvent". There was nothing of a gamble about him and he took no chances on anything, but always had the means to carry out his desires. This seemed to be true of his practice of medicine, in his religion, and in his social life. This sense of security made him very confident and added to his ability.

Dr. Brown was an outstanding Internist and Consultant for many years, and was greatly beloved by both the members of his profession and his hosts of patients and friends. We feel that in his death we have suffered a great loss and a loving personality long to be remembered by all who knew him.

He is survived by his widow, Kate Upshur Brown, one daughter, Mrs. James Massie, and one son, Dr. Alexander G. Brown, III.

CARRINGTON WILLIAMS, M.D.
SPOTSWOOD ROBINS, M.D.
PAUL W. HOWLE, M.D., *Chairman*

Public Relations Conference

A combination Public Relations and Public Information Conference will be presented by the Public Relations Committee of the Society on November 24 at Richmond's Hotel John Marshall.

The Conference this year is something "special" in that the morning portion will be devoted exclusively to the Woman's Auxiliary. The Committee has long realized that a strong, active Auxiliary is an asset to the Society—especially as a public relations medium.

The afternoon portion of the Conference will be of a public information nature in which the problems of the medically indigent and the chronically ill will be considered. Participating will be representatives from the League of Virginia Counties, Virginia Hospital Association, State Health Department, State Welfare Department, Virginia Council on Health and Medical Care, and many other interested groups.

It is hoped that all component societies will be well represented.

SOCIETIES

Southwestern Virginia Medical Society.

The annual Fall meeting of the Society was held at Maple Shade Inn in Pulaski, September 17, with the president, Dr. Frank Farmer of Roanoke presiding. Following an interesting scientific program, there was a short business session at which delegates and alternates were named for the 1954 meeting of The Medical Society of Virginia and twelve new members were admitted to the society. Officers for the coming year were elected as follows: President, Dr. R. C. Potter, Marion; vice-president, Dr. C. C. Hatfield, Saltville; and Dr. J. L. Chitwood of Pulaski was re-elected secretary-treasurer. Dr. R. H. Jones of Roanoke was elected to the Executive Council; and Dr. J. P. King, Radford, and Dr. F. C. Bedsaul, Floyd, to the Judiciary Committee to fill vacancies caused by retirement of other members.

At the meeting following dinner, Dr. Susan Dees of Duke University, spoke on "Allergy in Pediatrics", and Dr. Walter B. Martin of Norfolk, president-elect of the American Medical Association, gave an address. This was especially appropriate as Pulaski was Dr. Martin's boyhood home.

The Warwick-Newport News Medical Society.

At the meeting of the Society on September 8, there was a short business meeting, and a discussion of "Ladies Night" Dance in December, and plans for the course in Public Relations for office personnel to be given by The Medical Society of Virginia.

The scientific program consisted of presentation of a 4½ year old colored male with precocious puberty. The differential diagnosis was discussed by Dr. Monte Binder and Dr. A. A. Creecy, followed by an open discussion from the floor.

Dr. O. Watts Booth is president and Dr. W. Ward Anderson, Jr., secretary-treasurer.

Lynchburg Academy of Medicine.

The September meeting of the Academy was a dinner meeting on September 14th. Dr. Lewis G. Welt, Associate Professor of Medicine at Duke University spoke on, "The Significance of Electrolyte Abnormalties In Congestive Heart Failure".

The Academy voted to conduct a series of Medical Forum programs for presentation at public gatherings with the aid of the Lynchburg newspapers.

Applications of seven doctors for membership in the Academy were read and their applications filed for the year's waiting period required.

Frank N. Buck, *Secretary*

Fourth District Medical Society.

Dr. Edith Miller, Petersburg, presided at the meeting of this society in Chase City, September 15, held at the Mecklenburg Country Club. An interesting scientific program was presented at the 2:30 session, followed by a short business meeting. A cocktail party and dinner followed.

Richmond Academy of Medicine.

Dr. C. L. Outland presided at the meetings of the Academy on September 22 and October 13. At the first, papers were presented by Dr. William A. Johns on Localized Pulmonary Hypertrophic Emphysema, and by Dr. E. L. Kendig, Jr., on Tuberculosis in the Very Young.

On October 13, The Purpose and Functions of the Virginia Council on Health and Medical Care were explained by Edgar J. Fisher, Director, and Dr. William H. Harris, Jr., spoke on Mercuhydrin Sensitivity.

Fairfax County Medical Society.

The meeting on October 6 was held at the home of Dr. J. D. Zylman in Arlington, the new officers presiding at the meeting. Final plans for the dinner dance were announced. Dr. Claude Cooper of Annandale is president, and Dr. Robert Hunt of Falls Church secretary.

Virginia Peninsula Academy of Medicine.

At the meeting on September 16, at James River Country Club, there was a social hour starting at 6 o'clock with dinner being served afterwards. At the meeting which followed, the speaker of the evening was Dr. Louis H. Clerf, professor of Laryngology and Broncho-Esophagology at Jefferson Medical College, Philadelphia. Guests at the meeting also included Dr. G. Slaughter Fitz-Hugh of the University of Virginia and Dr. Porter P. Vinson of the Medical College of Virginia.

Dr. Chester D. Bradley is president of the Society and Dr. W. T. Watkins, Jr., secretary-treasurer. Both are of Newport News.

NEWS

News from the State Health Department.

Dr. Charles M. Wylie, former Director of the Botetourt-Buena Vista-Lexington-Rockbridge Health District, has been appointed Acting Director of the Fauquier-Prince William-Rappahannock Health District, effective October 1. The position vacated by Doctor Wylie has been filled by Dr. James H. Fagan, of Hancock, New York.

Dr. L. W. Frame, formerly of Huntington, West Virginia, was appointed Director of the Giles-Montgomery-Radford Health District, effective August 16, 1953.

Dr. W. A. Werner, Director of the Lee-Scott Health District, is on a nine month educational leave. Dr. Werner is attending the University of Michigan School of Public Health at Ann Arbor, Michigan.

Dr. Ware Honored.

Dr. H. Hudnall Ware, Jr., head of the department of obstetrics at the Medical College of Virginia, Richmond, was honored on September the 18th by a group of his former students on the twenty-fifth anniversary of his joining the College staff. A dinner was tendered Dr. and Mrs. Ware by a number of the former students and their wives at which time a scholarship and student loan fund was announced in his honor.

Dr. Arnold F. Strauss,

Pathologist of De Paul Hospital, Norfolk, was honored during his recent visit to Peru by being made a corresponding member of the Peruvian Society for Pathology. While in Lima, Dr. Strauss was invited to a conference at the Andean Institute for Biology and spoke before the Peruvian Society for Pathology about his research on red cell destruction by fragmentation and the role of the coronary circulation in this process. He also worked on the same problem with Dr. Jorge Campos of the Peruvian National Cancer Institute.

The two physicians will continue this work by an exchange of specimens and correspondence together with Dr. Ruprecht Witzmann, Pathologist in La Oroya, Peru, the highest town in the world where autopsies are performed. High altitude leads to more rapid formation and destruction of the blood and provides favorable conditions for such studies.

Dr. Strauss has resumed his duties as director of the Pathology department and Laboratories of De Paul Hospital, Norfolk, a post he has held since 1936.

Transfers in Veterans Administration Staffs.

Dr. Jack B. Porterfield, formerly with the Virginia State Health Department, now with the Veterans Administration, was transferred the middle of September from McGuire VA where he was on temporary duty, to the Kecoughtan VA Hospital, where he will be chief of the Physical Medicine Rehabilitation Service. At the same time, Dr. Lewellyn H. King transferred from Kecoughtan to become a member of the McGuire Physical Medicine Rehabilitation Service in Richmond.

The Conference on Gastroenterology

Will be held in the Medical School Auditorium of the University of Virginia on Friday, November 20. There will be Round Table discussions with Question and Answer Panels on The Ulcer Problem, Gall Bladder Disease, Benign and Malignant Growths of the G.I. Tract, and the Problem Presented by Diarrhea. Guest speakers from out of the State will be Dr. Franz Inglefinger of the Boston University Medical School, and Dr. Cranston W. Holman of Cornell Medical College.

These postgraduate conferences are offered by the University of Virginia for the practicing physicians of the State. No tuition fees are charged and all Virginia physicians are welcome.

The Association of Military Surgeons of the U.S.

Is to hold its next annual meeting at the Statler Hotel in Washington, D. C., November 9, 10 and 11. Rear Adm. Winchell McK. Craig (MC), URNR of Rochester, Minn., is this year's president. An outstanding scientific and professional program is scheduled, including exhibits and social events. All members of the medical, dental, nursing, pharmacy and allied science professions are invited to attend.

New Tuberculosis Sanatorium for Negroes.

Ground was broken recently for this unit in Richmond on the north side of Marshall Street and east of Thirteenth, near the Medical College of Virginia. This is being built as a joint project of the College and the State Department of Health.

Armed Forces Institute of Pathology.

The cornerstone was laid of the Armed Forces Institute of Pathology at the Walter Reed Army Medical Center in Washington, D.C., October the 20th. Appropriate exercises were held with music by the Marine Corps Band. The address was given by Honorable Melvin A. Casberg, M.D., Assistant Secretary of Defense.

Board of Visitors, Medical College of Virginia.

Three new appointees to the Board of Visitors of the College are Drs. J. D. Hagood, Clover, Miss Nora Spencer Hamner, Richmond, and R. F. Burke Steele of Petersburg. They replace three who are ineligible for re-appointment.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its Fall Clinical session in Richmond, November 30 and December 1, 2 and 3. The first two days will be devoted to Otolaryngology and the second two days to Ophthalmology. This meeting is open to all interested specialists in the United States. For information, address Dr. P. N. Pastore, Box 25, 1200 East Broad Street, Richmond 19, Virginia.

Duke Medical Symposium.

Duke University School of Medicine at Durham, N. C., invites physicians of North and South Carolina, Virginia and neighboring counties in Tennessee to attend the Medical Symposium to be held on the Duke campus, December 1 and 2. The general subject to be discussed will be "Psychiatry for the Non-Psychiatrist". The speakers will be doctors familiar with the problems of non-psychiatric physicians in the community.

Crippled Children's Hospital.

Attention is called to Donation Day, Tuesday, November 24, for Crippled Children's Hospital, Richmond. This hospital does not participate in the income from the Richmond Area Community Chest or from the sale of seals and is dependent largely upon free-will offerings. Each year they treat and care for over 400 children absolutely free of charge, who otherwise would have remained handicapped for life. Make your check payable to Crippled Children's Hospital, Inc., 2924 Brook Road, Richmond, Va.

Dr. George Kirby Brooks, Jr.,

Announces the opening of his office for the practice of psychiatry in the Lee Medical Building, Richmond.

Clinical Session, American Medical Association.

The seventh annual Clinical Session of the American Medical Association will be in St. Louis, December 1-4. More than 3,500 physicians are expected and a program has been designed to give the general practitioner an opportunity to see and hear the latest developments in medicine. More than 150 papers by outstanding physicians will cover such topics as internal medicine, surgery, pediatrics, obstetrics and gynecology, tuberculosis and other diseases of the chest, cardio-vascular diseases, arthritis, dermatology, gastrointestinal diseases and neuropsychiatry.

One outstanding feature will be an exhibit symposium on the prevention of traffic accidents. This will include discussion of the responsibilities of the physician in telling his patient when not to drive and what other precautions the physician should take in such special situations as the testing of the drinking driver and the care of the injured after an accident. Physicians and representatives from the National Safety Council and several police departments will participate in the symposium.

All scientific activities will be held in the Kiel Auditorium, where there are ample facilities for the lecture program. The Scientific Exhibit of about 80 displays will be correlated as far as possible with the clinical presentations. The Technical Exposition will consist of about 160 exhibits covering all types of office and medical practice needs.

The House of Delegates will meet in the Jefferson Hotel. Every physician should make an effort to attend one or more of these sessions.

Wanted

1. A physician for contract practice in coal camp;
2. A physician for private hospital, preferably internal medicine. Address Dr. W. C. Elliott, Lebanon General Hospital, Lebanon, Va. (*Adv.*)

Wanted

Physician for the Staff of the DeJarnette State Sanatorium, Staunton, Virginia. This is a psychiatric hospital of approximately 180-bed capacity. Starting salary $8,400.00 to $8,784.00. Apply to the Superintendent. (*Adv.*)

OBITUARIES

Dr. J. Edward Payne

Died at Arlington Hospital on July 27, 1953, of an intrapercardial hemorrhage. He was born at Lumberport, West Virginia, June 28, 1898.

Dr. Payne was graduated from West Virginia University in 1917, where he was a member of the Reserve Officers' Training Corps. In 1921 he graduated from the University of Maryland with the degree of Doctor of Medicine.

He was engaged in general practice in Clarksburg, West Virginia, for eight years and then moved to Arlington, Virginia, where he was in practice until his death. In 1951 he gave up general practice to enter Harvard Medical School and later the Mayo Clinic to study cardiology. He returned to Arlington to specialize in this field, and organized the Arlington-Fairfax Heart Association. At the time of his death he was a Director of the Virginia Heart Association. During his medical practice in Arlington he served as President of the Arlington County Medical Society, Chief-of-Staff of the Arlington Hospital and cardiac consultant to the local draft board.

Dr. Payne was a member of the Clarendon Methodist Church, Sons of the American Revolution, Masonic Lodge, Kiwanis Club and various other civic organizations. He was a Fellow of the American Medical Association, the medical societies of Virginia, District of Columbia and Arlington County, and a member of the staffs of Georgetown, George Washington, Garfield, Alexandria and Doctors' Hospitals.

Dr. Payne's warm personality and keen interest in civic and medical affairs made him not only an outstanding member of his profession, but a beloved member of the community.

R. C. HOOD, M.D.
H. CLARK BATES, JR., M.D.
JOHN H. JUDSON, M.D.
LLOYD B. BURK, JR., M.D.
ROBERT L. NORMENT

Dr. Oscar Lee Ransey,

Perhaps the oldest of the physicians of Pittsylvania County, living at Gretna, died in the hospital October 1, after a long illness. He was eighty years of age and a graduate of the former University College of Medicine, Richmond, in 1905. The greater part of his life was spent at Gretna where he had taken a prominent part in the activities of the county. He held a 50-year Masonic pin as a member of Anderson Lodge, A.M. & F.M. and had been a member of The Medical Society of Virginia since shortly after his graduation in medicine. His wife and several children survive him.

Dr. George Madison Maxwell, Sr.,

Prominent eye, ear, nose and throat specialist of Roanoke for forty-six years, died September the 24th at the Veterans Hospital in that city. He had been hospitalized since last October as the result of a fall in which he received a spinal injury. He was seventy-seven years of age and had graduated at the North Carolina Medical College in 1901 and in 1906 at the Jefferson Medical College in Philadelphia. He was a member of several special and other medical societies and had been a member of The Medical Society of Virginia since shortly after locating in Roanoke in 1907. His wife and several children survive him.

Dr. A. Henry Dunn,

Recently of Petersburg, Va. died August 4, in Los Angeles, California, to which place he had recently moved. Death was due to a coronary occlusion. He was born in Philadelphia in 1884 and graduated from the Medico-Chirurgical College there, in 1906. His wife survives him.

Dr. William L. Early

Of Wolftown, died September 25 at the age of seventy-six. He graduated in medicine at the Medical College of Virginia in 1898 and had served his community for fifty-four years as a general practitioner. He was also a farmer and at the time of his death was a member of the Madison County Democratic Committee and had taken an active part in the activities of his section. He is survived by his wife and two children.

Dr. Robert J. Wilkinson,

Prominent surgeon of Huntington, West Virginia, died September 14 in the C. & O. Hospital there, where he had been surgeon-in-charge since 1915. He was sixty-five years of age and a graduate of the Medical College of Virginia in 1912. He was last year's president of the Southern Medical Association and was also a former president of the West Virginia State Medical Association. He was always interested in the Alumni Association of his alma mater and was recently president of that Association.

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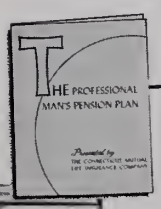


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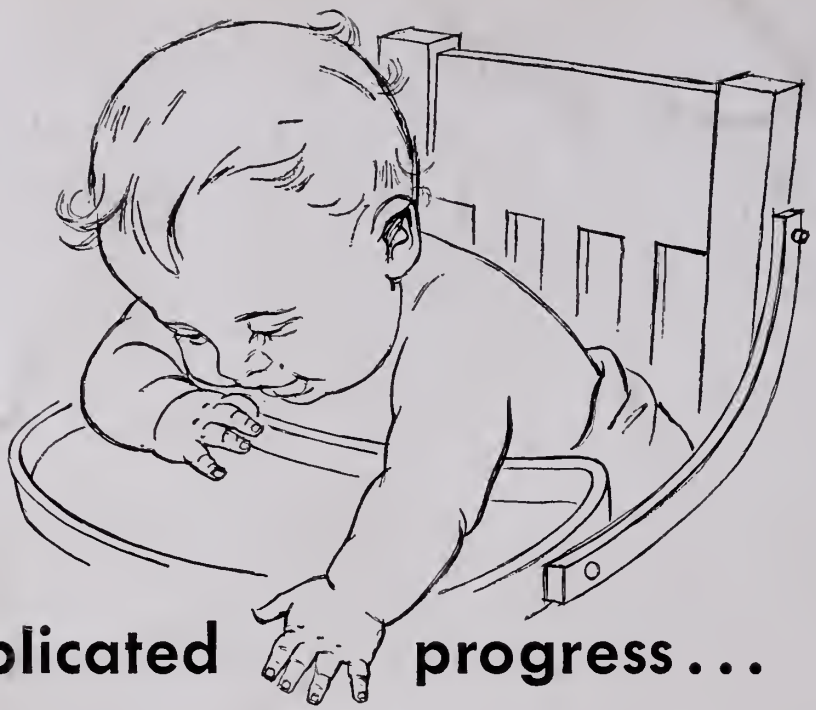
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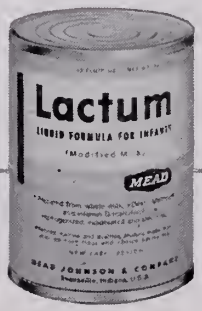
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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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VIRGINIA MEDICAL MONTHLY

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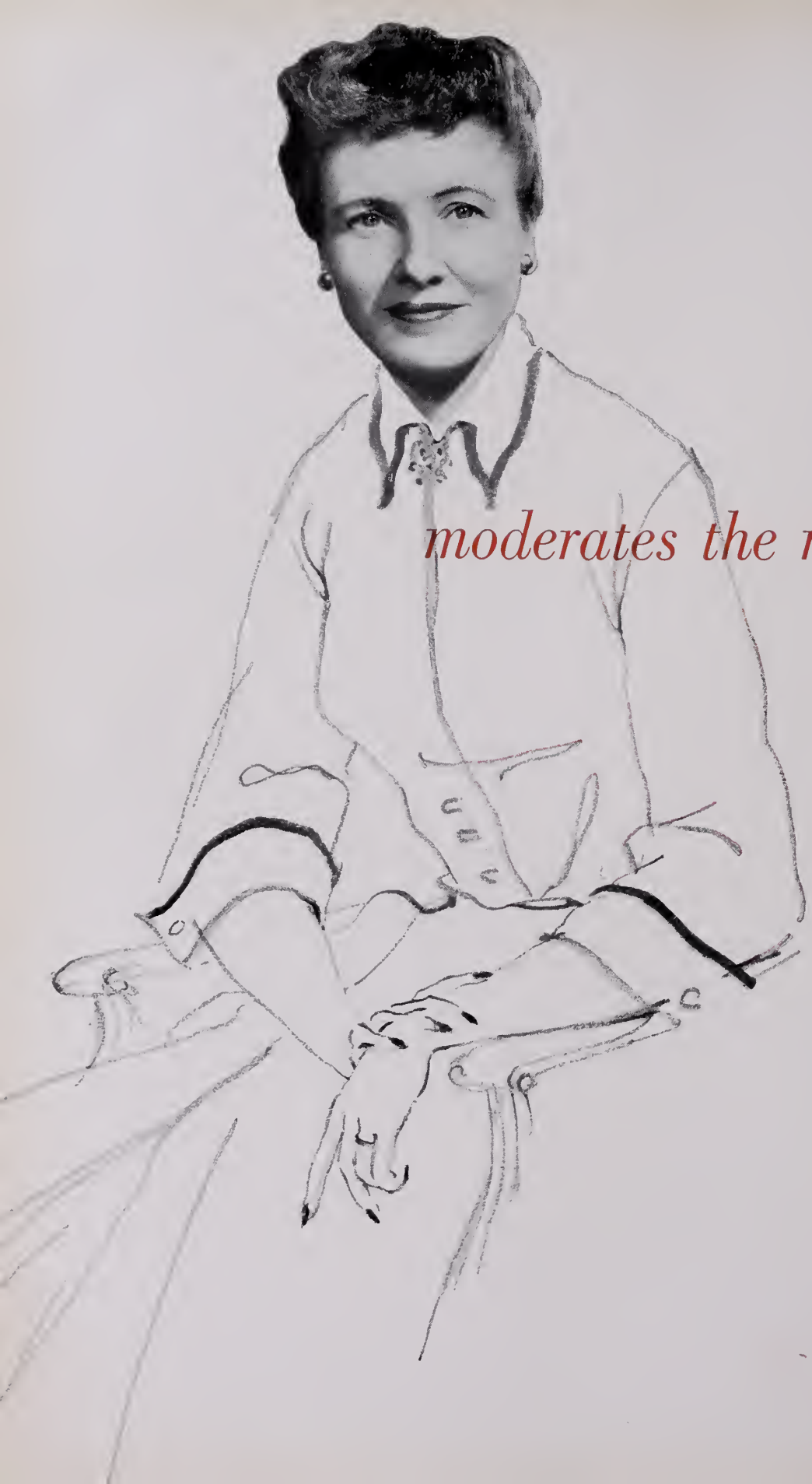
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Virginia Medical Monthly

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In Memoriam

MARVIN PIERCE RUCKER
1881-1953
Editor of the Virginia Medical Monthly
1942-1953



Distinguished as teacher and practitioner of obstetrics and gynecology, as president of The Medical Society of Virginia, and as president of the Richmond Board of Health, he pursued with ardor the study and writing of medical history, to which he made many worthwhile contributions. His modesty, friendliness and integrity endeared him to many.

GUEST EDITORIAL

The Changing Picture in Pulmonary Tuberculosis

FOR the first time total eradication of tuberculosis as a serious public health problem looms as a truly feasible goal in this country, due to (1) the tremendous reduction in mortality that has taken place since the turn of the century—the present rate being less than 20% that of 1900, (2) successful application to tuberculosis of daringly ingenious surgical techniques for removal of the whole or portions of one lung, (3) discovery of specific anti-tuberculosis drugs of proven worth, when used alone (in conjunction with systemic rest), or to expand the range of usefulness of all types of chest surgery, (4) the technical triumph of micro-film which has made practical industry- and community-wide chest x-ray screening, (5) modern facilities of communication and education by which all segments of the population can be reached (Radio, TV, etc.), (6) ever increasing improvements in standards of living.

Add to these in Virginia, the prospect of gradual attainment of enough sanatorium and surgical beds to care for all of those in need, and the prompt establishment of Regional Chest Clinics throughout the State to implement participation of the General Practitioner and Internist in our program, and it will be appreciated that the means are now, or soon will be, at hand to deliver a final coup-de-grace to one of the greatest scourges ever to afflict mankind.

The *problem* is how best to integrate, and at the same time deploy effectively, all these powerful instruments for good so that both newly acquired weapons and augmented personnel will contribute to the fullest possible extent toward maximum acceleration of program.

Naturally sudden additions to basic tactical weapons require the prompt setting up of methods to evaluate the intrinsic worth of each, together with a study of the respective roles each may be expected to play in relation to the total program.

Only time will tell the exact place of surgery; it will be an important one. Long term results of new excisional procedures, particularly, have yet to be evaluated. In the meantime surgeons will continue to advise to the best of their ability in the light of present knowledge.

Many studies are currently under way to determine how the specific medicinal aids can be used to the best advantage for lasting results, both with and without surgery. Meanwhile tuberculosis specialists and physicians generally, will prescribe drugs in ways not known to be detrimental to fundamental objectives of "control" and of *cure,* respectively.

Fortunately, the current general resurgence of interest in tuberculosis, unquestionably stimulated as it has been by potentialities of modern therapy and the newly achieved feasibility of completely wiping out the disease as a serious public health problem within the foreseeable future, carries in its wake a real incentive to re-examine long established practices—to make sure that these will accelerate—rather than retard—the forward movement. Some well known therapeutic practices upon reappraisal, may possibly be destined for elimination, others assigned to new roles, while those that stand up favorably under the light of unprejudiced if merciless scrutiny, may receive new impetus and take their place, along with surgery and drugs, among our most potent weapons. In the latter category *might* be included the prescription of systemic rest upon a *truly* quantitative basis, as "definitive" treatment. On the other hand

there are some who are beginning to toy with the possibility that bed-rest (and even general systemic (body) rest—which includes bed-rest) may eventually be relegated to the limbo of forgotten things. Several research projects are now being conducted with this thought in mind. This is a field of research in which the General Practioner ultimately will be in a position to make a major contribution.

Even basic concepts of tuberculosis are being examined anew. Perhaps it is just as well that fundamental premises be challenged once in a while. In addition to resultant wholesome periodic focusing of attention, an opportunity is afforded thoughtfully to reaffirm, where possible, rather than uncritically to take for granted through the years, their *seeming* validity and continuing usefulness.

In order to permit physicians to evaluate effectively their use of therapeutic regimes which have not yet had time to crystalize into established patterns, it is necessary that a welter of confusion as regards key terms and elementary concepts of tuberculosis be dissipated as soon as possible. Much has accumulated in day to day usage and in literature which is both inadequate and contradictory. To compare notes intelligently, doctors must learn to "talk the same language"!

To be completely effective physicians must be prepared, in cooperation with Public Health Workers, to pass on to the public and in terms it can understand, whatever knowledge of tuberculosis may finally be agreed upon as constituting a part of rudimentary public health education.

The first of a series of brief discussions of basic facts about tuberculosis and its principles of treatment appears in this issue. These are being prepared by the State Health Department primarily for general practitioners and will consist of compact carefully edited summaries of "refresher" material, currently accepted drug therapy practices, as well as suggested "working definitions and concepts" relative to tuberculosis that should prove useful in daily practice. A committee of representative general practitioners appointed by the Virginia Academy of General Practice will review each article prior to publication for content in terms of special applicability to general practice.

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Virginia State Department of Health

Floral Eponym

Tillandsia

Tillands, Elias, 1640-1693

Dr. Tillands was born at Smoland, Sweden, studied at Upsula and Turku and graduated at Leyden in 1670. He was professor of medicine and botany at Turku.

Tillandsia is a large genus of tree-perching plants from tropical America. *T. usneoides* is the familiar Spanish moss.

RADIOACTIVE IODINE IN THE TREATMENT OF HYPERTHYROIDISM

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Radioactive iodine, I-131, has now been established to be of definite therapeutic value in the treatment of hyperthyroidism. Since 1942, when the results of the first treatment of patients with hyperthyroidism with radioactive iodine were reported by Hertz and Roberts[1] and by Hamilton and Lawrence[2], there have appeared numerous reports[3-16] on large series of patients treated with this isotope. The various investigators differ somewhat in the dosage and general management of their patients, but the basic approach is the same, namely, an initial calculated dose of radioactive iodine given orally, with additional doses given as indicated by the subsequent course of the patient.

The purpose of this report is to present our results in a series of sixty-four patients seen at the University of Virginia Hospital from June, 1950, through December, 1952.

SELECTION OF PATIENTS

Patients were selected for therapy with radioactive iodine who fulfilled one or more of the following criteria established by various investigators[8,11,15,17] as indications for therapy:

1. Hyperthyroidism associated with cardiovascular disease.
2. Recurrent or persistent toxicity following thyroidectomy.
3. Failure to obtain a response with antithyroid medications.
4. Hyperthyroidism associated with other serious illnesses such as diabetes mellitus, psychoses, epilepsy, etc.
5. Refusal of surgery or other therapy.
6. Selected cases of uncomplicated hyperthyroidism in the older age group.

DIAGNOSIS AND METHOD OF TREATMENT

The diagnosis was established in all cases mainly on the basis of the usual clinical criteria plus the basal metabolic rate and/or radioactive iodine tracer uptake studies (one hour or twenty-four hour determinations). In regard to the latter, it has been established[19] that the one hour uptake is as reliable as the twenty-four hour uptake in separating hyperthyroid from euthyroid subjects, thus serving to economize on time spent in diagnosis.

The determination of a suitable dose of radioactive iodine for treatment of hyperthyroidism is a problem. Various methods, based on a clinical estimate of gland size and the uptake of a tracer dose of radioactive iodine by the gland, have been used for determining the size of the effective dose, but none have been found to be entirely satisfactory. Two main difficulties are encountered in trying to arrive at the minimal amount of radioactive iodine which will induce a remission. First, the estimation of the size of the intact thyroid gland by palpation is very difficult. At best, it is a "calculated guess" based on previous experience. Second, the ability of the thyroid to accumulate iodine, as measured by the radioactive tracer study, may be depressed due to the previous administration of iodides or certain other drugs known to inhibit the uptake of iodides by the thyroid. These include: Lugol's solution[21], organic iodide compounds used as contrast media in roentgenology (Prodax, Lipiodol, etc.), desiccated thyroid[21,22], thiocyanates[23], drugs of thiourea series such as propylthiouracil[24], ACTH, and cortisone.

The effective doses have been estimated by various authors to vary from 23 to 575 microcuries per gram of thyroid tissue[3,6,20]. Werner and associates[5] have reported that 100 to 200 microcuries per gram was the average amount necessary to induce a remission. The latter schedule works out so that the initial dose is usually 3 to 6.5 millicuries for a toxic goitre of two to three times normal size. Because of the previously described difficulties in estimating the size of the gland and the uptake of the gland in a patient who has received drugs which depress the rate of accumulation we have empirically adopted an initial dose of 3.0 to 6.5 millicuries in most of the cases of diffuse toxic goiter.

It was found that the initial dose needed to be larger in the presence of severe toxicity, nodular goiter, or extremely large diffuse glands. This finding is in agreement with others[5,11,15]. In general, however, an attempt is made to give the smallest dose that may produce a remission with the total dose being governed by the response obtained.

Following the administration of a therapeutic dose of radioactive iodine, the patients were followed at intervals of two to three months until euthyroid. If the initial dose proved inadequate, additional doses were given until the euthyroid state was reached[15].

The patients with cardiac disease and severe hyperthyroidism may get a temporary increase in the severity of symptoms about one to two weeks following a therapeutic dose of radioactive iodine. For this reason this type of patient was maintained on propylthiouracil therapy for one month following therapy to prevent any severe flare up which might be dangerous to a cardiac patient. As a result of this program no serious reactions have been noted in the thyrocardiacs treated with radioactive iodine.

Almost all of the patients were treated on an outpatient basis unless the hyperthyroidism was complicated by another illness requiring hospitalization.

Observations

Since June, 1950, sixty-four patients have received radioactive iodine for treatment of hyperthyroidism. The distribution of these patients as to age, sex, type of gland, and whether they had primary or recurrent hyperthyroidism, is shown in Table I.

As is shown, the group was comprised of 10 males (15.6%) and 54 females (84.4%). Diffusely enlarged glands were present in forty instances (62.5%) and nodular glands in twenty-four instances (37.5%). Of the diffuse goiters, five, or 12.5% were recurrent, all of them in females; whereas, of the nodular goiters, five, or 20.8%, were recurrent, with four, or 80%, occurring in females. All recurrent goiters in this series followed previous subtotal thyroidectomy; none followed previous medical control. In our series, 89.1% of the patients were over forty years of age, and 10.9% under forty years of age. All patients under forty years of age had either recurrent hyperthyroidism or hyperthyroidism complicated by an illness which made surgical treatment hazardous.

The status (as of December, 1952) of sixty-four patients, to whom ninety-five oral doses of radioactive iodine were administered, is shown in Table II.

Six of the original sixty-four patients did not return for follow up examinations, or were unable to be contacted, and are therefore excluded from the analysis of the results. The appraisal of results was made in most cases by following the patient in our clinic until euthyroid. If it was impossible for the patient to return for follow up, a letter was obtained from the referring physician regarding the patient's response to treatment.

Table I. Distribution of Patients as to Age, Sex, and Gland Type

Age Group	Males					Females				
	Number Of Patients	Type Gland				Number Of Patients	Type Gland			
		Diffuse		Nodular			Diffuse		Nodular	
		Primary	Recurrent	Primary	Recurrent		Primary	Recurrent	Primary	Recurrent
20—29						3		1	1	1
30—39	1	1				3	1	1	1	
40—49	3	3				14	7	2	3	2
50—59	3	2			1	16	9	1	5	1
60—69	2	2				11	5		6	
70—79	1	1				6	4		2	
80—89						1			1	
Totals	10	9			1	54	26	5	19	4

TABLE II. STATUS OF PATIENTS AS OF DECEMBER, 1952

Number Of Patients	Remissions	Lost To Follow-up Before Remission	Still Under Treatment	Hypothyroid	Treatment Failure	Recurrence	Deaths
64	54	6	3	4	1	1	2

Remissions were achieved in fifty-four of the fifty-eight patients followed, i.e., signs and symptoms of hyperthyroidism disappeared, and the laboratory signs no longer were suggestive of hyperthyroidism, even though hypothyroidism may have been present. This is an overall remission rate of 93.1%.

Table III shows the total dose range and average total dosage necessary for remissions in fifty-four patients. Patients with diffusely enlarged glands required from 3.75 to 30 millicuries, with an average of 11.48 millicuries. Patients with nodular glands required from 3 to 22.5 millicuries to effect a remission, with an average of 12.28 millicuries. The number of doses necessary to effect a remission is shown in Table IV. Sixty-three per cent required only one dose, whereas 29.6% required two, and 7.4% required three doses.

TABLE III. TOTAL DOSE RANGE AND AVERAGE TOTAL DOSE

Age Group	Diffuse			Nodular		
	Number Patients	Total Dose Range mc	Average Total Dose mc	Number Patients	Total Dose Range mc	Average Total Dose mc
20—29				2	3—31	17.0
30—39	3	3.75—10.0	6.58	1	20.8	20.8
40—49	10	5.0—16.75	10.25	4	6.95—21.1	11.26
50—59	8	7.5—28.0	13.47	7	3.5—20.0	10.17
60—69	6	10—30	15.1	6	3.0—22.5	10.7
70—79	4	7.0—11.5	8.8	2	10—15.4	12.7
80—89				1	22.0	22.0
All Patients	31	3.75—30	11.48	23	3.0—22.5	12.28

COMPLICATIONS

Four of the fifty-four patients in remission developed hypothyroidism (Table II), one, five, six and seven months after conclusion of therapy; an incidence of 7.4%. This complication developed in two patients with nodular glands, and in two with diffusely enlarged glands.

One patient was considered a treatment failure (Table II). This patient experienced an increase in toxicity following each of two doses four months apart, was subsequently rendered euthyroid with antithyroid drugs and Lugol's solution, and then achieved a permanent remission following surgery.

Patients were considered as having had a recurrence if four or more months following a remission, further treatment with radioactive iodine was required. One patient was so considered (Table II) six months following therapy, after having been euthyroid for four months. This is an incidence of 1.9%.

Two deaths occurred in this series (Table II) of undetermined cause, fourteen and eighteen months respectively after receiving therapy; the former was in remission at time of death, and information for the latter in that regard was not available. The death did not appear to be due to therapy with radioactive iodine.

Discussion

The 93.1% remission rate obtained in this series compares favorably with results obtained by other authors, as shown in Table V.

In general, the results of treatment of hyperthyroidism with radioactive iodine have been excellent. The results compare favorably with those reported for the treatment with anti-thyroid drugs followed by subtotal thyroidectomy[26]. The results are better than those reported using antithyroid drugs alone[27,28].

The main advantage of radioactive iodine therapy could be summarized as follows: it is easily administered, hospitalization is not required, post-treatment vocal cord paralysis or hypoparathyroidism have not been noted, drug reactions are eliminated, and the risk of surgery in the thyrocardiac is eliminated.

The incidence of post-therapy myxedema is approximately the same for both radioactive iodine and surgery[25]. It does not constitute a definite disadvantage. The incidence of recurrence of toxicity following radioactive iodine is no greater than that following surgery nor as great as that following anti-thyroid medication alone[25]. Recurrence does not constitute a serious disadvantage because the patient can be retreated with good results[15].

Table IV. Number of Doses of I-131 Necessary to Achieve Remission

Age Group	One Dose		Two Doses		Three Doses	
	Diffuse	Nodular	Diffuse	Nodular	Diffuse	Nodular
20—29		1		1		
30—39	3					1
40—49	6	1	3	3	1	
50—59	1	7	6		1	
60—69	5	5		1	1	
70—79	4	1		1		
80—89				1		
Totals	19	15	9	7	3	1
Percentage	63.0%		29.6%		7.4%	

A disadvantage of radioactive iodine therapy which should be mentioned is the delay between treatment and the attainment of the euthyroid state. The euthyroid state is usually attained in six to eight weeks unless a patient requires an additional dose. This is usually not a serious problem except in patients with associated cardiac disease. The management of this type of patient has already been discussed.

There is still a question of the possible development of late malignant changes following radioactive iodine therapy especially in young people. Quimby

Table V. Results of I-131 Treatment of Hyperthyroidism

Authors	Year Reported	Number Patients	Percentage Remission
Chapman and Evans[20]	1949	135	85
Soley et al[8]	1949	46	93
Feitelberg et al[7]	1950	290	99
McCullagh and Richards[11]	1951	203	98
Clark et al[15]	1952	384	100

and Werner[18], who have studied the problem intensively feel that it is unlikely, but that a sufficient time interval has not yet elapsed to make a definite statement. In fifteen years of use of radioactive iodine for the treatment of hyperthyroidism there are no reports of malignancy developing in the patients who have received therapy.

The only definite contraindication for the use of radioactive iodine in this series has been pregnancy. This would appear to be the best policy even though patients have inadvertently received radioactive iodine therapy while pregnant and the progeny has been normal.

SUMMARY AND CONCLUSIONS

1. Radioactive iodine is an effective drug for the treatment of hyperthyroidism.

2. It is especially valuable in recurrent hyperthyroidism and hyperthyroidism associated with cardiovascular disease or some other serious illness which might increase the risk of surgical therapy.

3. The main advantages of radioactive iodine therapy are ease of administration, lack of hospitalization, absence of post-treatment vocal cord paralysis or hypoparathyroidism, and the absence of drug reactions.

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Urge Public Realization of Coroner's Office Welfare Role.

The general public must be educated to realize the important role a well-functioning medical coroner's office plays in their welfare, it was stated in the September 19 J.A.M.A.

Cooperation of the public with the local coroner's office will provide many benefits to the entire community, in the opinion of Drs. Kurt E. Landé and Garrett Boone, Hamilton, Ohio. These benefits include the discovery of the major causes of death, the detection of epidemics, the uncovering or disproof of homicides and the determination of causes of accidents which result in death.

The doctors reported on a survey of the activities of the coroner's office in an Ohio county with a population of 147,203. In the county during 1951 there were 1,405 deaths, and 1,440 in 1952. The coroner's office investigated 305 of the deaths in 1951 and 334 in 1952.

"The preponderance of coroner's cases were sudden deaths from natural causes," the doctors stated. "This is also the group in which the largest number of autopsies were performed; this incidence is similar to that of the whole country. Heart disease, mainly the direct or indirect sequela of coronary arteriosclerosis, is by far the leading cause of sudden, unexpected death.

"Accidents are the next most important group of coroner's cases, with automobile accidents the commonest. Railroad accidents, however, are, in this country, far from rare and are frequently the result of unprotected railroad crossings at which drivers or pedestrians either half asleep and/or intoxicated are caught by a train. Industrial accidents are encountered in the usual frequency, in spite of existing safety programs in the steel and paper mills, machine tool factories, and foundries.

"Although true homicides have been infrequent, suicides are fairly common; among them have been several homicide-suicide situations. Too many sleeping pills, gunshot wounds, and carbon monoxide are employed more often than hanging."

THE DIAGNOSIS AND TREATMENT OF GLYCOSURIA

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Two major problems encountered in the handling of glycosuria are as follows: (1) the determination of its clinical significance, and (2) the extent of treatment.

Patients having glycosuria can be divided roughly into three groups: Group 1, those having persistent gross glycosuria and markedly abnormal values for blood sugar with or without any combination of polyuria, polydipsia and polyphagia; Group 2, those having intermittent or persistent glycosuria and borderline to slightly abnormal values for blood sugar, usually without symptoms, and Group 3, those having transient or persistent glycosuria with normal values for blood sugar without symptoms.

A diagnosis of diabetes mellitus can usually be made for patients in Group 1 without hesitation or reservation. On the other hand, some patients who are not in either Group 2 or 3 may present real diagnostic problems. Any patient who has glycosuria should be suspected of having diabetes until its presence is disproved. Since the label "diabetic" often carries serious psychologic and financial penalties for the patient, the physician should make every effort to establish a correct diagnosis.

A review of the literature indicates that the criteria for diagnosis often vary with different authorities. The most widely accepted values are those stated by Joslin and associates[1] and the American Diabetes Association Committee on Diabetes Detection[2] to the effect that a fasting value for blood sugar of more than 130 mg. per 100 cc.* associated with glycosuria is diagnostic of diabetes. Because laboratory errors can occur, a diagnosis of diabetes should not be made on the basis of a single abnormal value for blood sugar. Repeated determinations are necessary.

Results of routine urinalyses show that 1 to 2 per cent of all patients are in Groups 2 and 3 and that 15 per cent of these patients show a significant disturbance of glucose tolerance[3]. Because many patients in Groups 2 and 3 will have normal fasting values for blood sugar, the diagnosis will depend on the glucose tolerance test.

*All values for blood sugar mentioned are based on determinations made by the method of Folin and Wu on venous blood.

Moyer and Womack[4], Wilder[5], and Joslin and co-workers[1] stated the opinion that the one-dose standard glucose tolerance test provides the greatest sensitivity, validity, and specificity. The test is administered by giving the patient 100 gm. of glucose by mouth and determining the fasting values for blood sugar a half hour, an hour and two hours after ingestion of the glucose. In order to insure the validity of the results, the patient must be on a normal carbohydrate diet for three to four days prior to the test, and must fast for fourteen hours immediately preceding it. Results for patients having fever, disease of the liver, nephritis, or diseases of the pituitary or adrenal glands or for pregnant women require cautious evaluation since these conditions produce abnormal tolerance curves.

Joslin and associates[1] advocated the following values for a normal one-dose glucose tolerance curve: a fasting value for blood sugar of 130 mg. per 100 cc. or less; a peak of 170 mg. per 100 cc. or less a half hour or an hour after the administration of glucose; a return to 120 mg. per 100 cc. or less in two hours.

Many patients in Groups 2 and 3 will show borderline or bizarre tolerance curves which are difficult to evaluate. It is helpful in these cases to apply a formula advocated by Watson[3] to determine the normalcy of any given tolerance curve: (factor x) $= \frac{F + H + L.}{3}$. F indicates the fasting value for blood sugar, H the highest value for blood sugar and L the final or last blood sugar determination. When the value of x is 140 or less, the tolerance curve is normal. Values for x between 140 to 150 should be regarded with suspicion and probably justify a diagnosis of potential diabetes. In such cases the glucose tolerance test should be repeated in three to four months. Values for x exceeding 150 are indicative of diabetes. This method is said to be valid in 90 per cent of all cases.

Group 3 includes patients with persistent glycosuria but with a concentration for blood sugar of less than 170 to 180 mg. per 100 cc. These patients have a lowered renal threshold for glucose. A diagnosis of diabetes is not justified even though they have persistent glycosuria.

The treatment of diabetes consists of three major components: (1) diet, (2) insulin, (3) education of the patient. The degree of success obtained with the first two is directly proportional to success with the latter.

Diet

Diet is the keystone of diabetic management. The first step in planning a successful diet is the determination of the basal caloric requirements for each twenty-four-hour period. This should be formulated on the patient's ideal or standard weight for his age, sex and height. Basal caloric requirements must not be computed from the patient's actual weight unless that weight corresponds to the standard weight. Weights based on age, sex and height are available in many text books and in medical actuarial* studies of life insurance companies.

The basal caloric requirement can be computed fairly accurately by multiplying the patient's ideal weight in pounds by 10. If the patient is less than 40 years of age add 100 to 200 calories to his basal caloric requirement and if the patient is more than 40 years of age subtract 100 to 200 calories.

The second step is the determination of calories needed in addition to the basal requirement to sustain the patient during his daily activities. The additional calories needed for various levels of activity and occupations are determined as follows:

(1) Elderly sedentary patients need basal calories plus 20 to 30 per cent; (2) housewives, office and white collar workers, basal calories plus 30 to 40 per cent; (3) active young adults, basal calories plus 40 to 60 per cent; (4) laborers and farmers, basal calories plus 60 to 70 per cent, and (5) children, basal calories plus 80 to 100 per cent.

An example is shown for a 45-year-old diabetic man who is 5 feet 10 inches tall and works as an office clerk: standard or ideal weight = 170 pounds $\times$ 10 = 1,700 calories. Subtract 100 calories because patient is more than 40 years of age 1,700 — 100 = 1,600 calories = basal requirement.

Because the patient is an office worker 30 per cent of his basal requirement of calories is added to his basal calories to supply him with sufficient calories for his daily activities. Thus 1,600 + 30 per cent $\times$ 1,600 = 1,600 + 480 calories = 2,080 calories.

The third step is the construction of a diabetic diet based on the caloric requirements of the patient. Diets, to be successful, must be understandable, practical and satisfying to the patient. They must provide a limited intake of carbohydrate and yet supply an adequate amount of protein and fat. In 1950 the American Diabetes Association[6] and the American Dietetics Association[7] together with the Diabetic Branch of the Public Health Service approved and published a new simplified method for planning diabetic diets in an effort to fulfill the demands of patients and physicians. This method, based on exchanges of food, places all suitable foods under six exchange lists; namely, milk, vegetables, fruits, breads, meats and fats (Table 1). Under each list

Table 1

Food Exchange Lists

List 1: Milk Exchanges: Each food listed below contains 12 grams of carbohydrate, 8 grams of protein, 10 grams of fat and represents 170 calories.

Food	*Approx. measure 1 exchange*	*Weight (gm.)*
Milk	1 cup (8 oz.)	240
Milk, evaporated	½ cup	120
Milk, powder, whole	¼ cup (3 tbsp. level)	35
Buttermilk	1 cup	240
Milk, skim	1 cup	240

List 2: (A) Vegetable Exchanges: Each food listed below contains negligible amounts of carbohydrate, protein and fat. If more than 1 cup in cooked form is used at one meal it should be calculated as one serving of a Group B vegetable.

Asparagus	Mushrooms	Watercress
Broccoli	Okra	Greens:
Brussels sprouts	Parsley	Beet
Cabbage	Pepper, green	Chard
Cauliflower	Radish	Collard
Celery	Romaine	Dandelion
Chicory	Rhubarb	Kale
Cucumber	Sauerkraut	Mustard
Escarole (endive)	String beans, young	Poke
Egg plant	Summer squash	Spinach
Lettuce	Tomatoes	Turnip

(B) Vegetable Exchanges: Each food listed below contains 7 grams of carbohydrate, 2 grams protein and represents 35 calories.

Carrots	½ cup	100
Beets	½ cup	100
Onions	½ cup	100
Peas, green	½ cup	100
Pumpkin	½ cup	100
Rutabagas	½ cup	100
Squash, winter	½ cup	100
Turnip	½ cup	100

List 3: Fruit Exchanges: Each food listed below contains 10 grams of carbohydrates and represents 40 calories.

*Medico-Actuarial Mortality Investigation, Vol. 1, New York, 1912.

They may be used fresh, dried, cooked, canned or frozen as long as sugar has not been added.

Fruit	*Approx. measure 1 exchange*	*Weight (gm.)*
Apple, 1 small	2 inches, diameter	80
Applesauce	½ cup	100
Apricots, fresh	2 medium	100
Apricots, dry	4 halves	20
Banana	½ small	50
Berries (blackberries, raspberries, strawberries, blueberries)	1 cup	150
	⅔ cup	100
Cantaloupe	¼ (6 inches, diameter)	200
Cherries	10 large—15 small	75
Dates	2	15
Figs, dried	1 small	15
Figs, fresh	2 large	50
Grapefruit	½ small	125
Grapefruit juice	½ cup	100
Grapes	12	75
Grape juice	¼ cup	60
Honeydew melon	⅛ (7 inches, diameter)	150
Mango	½ small	70
Nectarine	1 medium	100
Orange	1 small	100
Orange juice	½ cup	100
Papaya	⅓ medium	100
Peach	1 medium	100
Pear	1 small	100
Pineapple	½ cup, cubed	80
Pineapple juice	⅓ cup	80
Plums	2 medium	100
Prunes, dried	2 medium	25
Raisins	2 tbsp. level	15
Tangerine	1 large	100
Watermelon	1 cup diced	
	1 slice (3 by 1½ inches)	175

List 4: Bread Exchanges: Each food listed below contains 15 grams of carbohydrate, 2 grams of protein and represents 70 calories.

Food	*Approx. measure 1 exchange*	*Weight (gm.)*
Bread, baker's	1 slice	25
Biscuit, roll	2 inches, diameter	35
Muffin	2 inches, diameter	35
Cornbread	1½ inch cube	35
Cereals, cooked	½ cup cooked	100
Cereals, dry (flakes, puffed and shredded)	¾ cup, scant	20
Rice, macaroni, noodles	½ cup cooked	100
Crackers:		
Graham	2 (2½ by 2¾ inches)	20
Oyster	20 (½ cup)	20
Saltines	5 (2 inches square)	20
Soda	3 (2½ by 2½ inches)	20
Round, thin varieties	6 to 8 (½ inch, diameter)	20
Vegetables:		
Beans, peas, dried (cooked); includes blackeyed peas, cowpeas, split peas; lima, navy and kidney beans, etc.	½ cup, scant	100
Corn	⅓ cup or ½ ear	80
Parsnips	½ cup	125
Potatoes		
White, baked	2 inches, diameter	100
White, boiled, mashed	½ cup	100
Sweet or yam	¼ cup	50
Sponge cake, no icing	1½ cube	25
Ice cream, vanilla (omit 2 fat exchanges)	⅛ qt.	70

List 5: Meat Exchanges: Each food listed below contains 7 grams of protein, 5 grams of fat and represents 75 calories.

Food	*Approx. measure 1 exchange*	*Weight (gm.)*
Meat:		
Beef, fowl, lamb, veal (medium fat), liver, pork, ham	1 oz.	30
Coldcuts:		
Salami, minced ham, bologna, cervelot, liver sausage, luncheon loaf	1 slice (4½ inches, diameter by ⅛ inch)	45
Frankfurter (8-9 per lb.)	1	50
Fish:		
Cod, haddock, halibut, herring, etc.	1 oz.	30
Salmon, tuna, crabmeat, lobster	¼ cup	30
Shrimp, clams, oysters (medium)	5	45
Sardines	3 medium	30
Cheese:		
Cheddar type	1 oz.	30
Cottage	3 tbsp. (level)	45
Egg	1	50

List 6: Fat Exchanges: Each food listed below contains 5 grams of fat and a total of 45 calories.

Food	*Approx. measure 1 exchange*	*Weight (gm.)*
Butter or margarine	1 tsp. level	5
Bacon, crisp	1 slice	10
Cream, light, sweet, sour—20 per cent	2 tbsp. level	30

Cream, heavy—40 per cent	1	tbsp. level	15
Cream cheese	1	tbsp. level	15
French dressing	1	tbsp. level	15
Mayonnaise	1	tsp. level	5
Oil or cooking fat	1	tsp. level	5
Olives	5	small	50

Beverages, condiments and foods allowed as desired:

Coffee	Lemon
Tea	Mustard, dry
Clear broth	Pickles (unsweetened)
Bouillon (fat free)	Saccharine
Gelatin (unsweetened)	Pepper and other spices
Rennet tablets	Vinegar
Rhubarb	
Cranberries (unsweetened)	

are the names and quantities of foods which are similar in caloric values as well as in grams of carbohydrate, fat and protein. From basic meal plans which are computed for 1,200; 1,500; 1,800; 2,200, and 2,600 calories (Tables 2 and 3), an appropriate

Table 2

Composition of Basic Meal Plans

Diet	Calories	Carbohydrate, gm.	Protein, gm.	Fat, gm.
1	1,200	125	60	50
2	1,500	150	70	70
3	1,800	180	80	80
4	2,200	220	90	100
5	2,600	250	100	130

Table 3

Summary of Allowable Selections in the Basic Meal Plans

Diet 1	Diet 2	Diet 3	Diet 4	Diet 5	Meal plan*
Calories 1,200	Calories 1,500	Calories 1,800	Calories 2,200	Calories 2,600	
Amount	Amount	Amount	Amount	Amount	Breakfast
1	1	1	1	1	Fruit exchanges from list 3
1	1	1	2	1	Meat exchanges from list 5
1	1	2	2	2	Bread exchanges from list 4
0	1	2	3	3	Fat exchanges from list 6
†	†	†	†	†	Coffee or tea
				1	Milk from list 1
					Lunch or supper
1	2	2	2	2	Meat exchanges from list 5
1	2	2	3	3	Bread exchanges from list 4
†	†	†	†	†	Vegetable exchanges from list 2A
1	1	1	1	1	Fruit exchanges from list 3
0	1	1	2	3	Fat exchanges from list 6
1	1	1	1	1	Milk from list 1
†	†	†	†	†	Coffee or tea
					Dinner or main meal
3	3	3	3	3	Meat exchanges from list 5
1	2	2	3	3	Bread exchanges from list 4
†	†	†	†	†	Vegetable from list 2A
1	1	1	1	1	Vegetable exchanges from list 2B
1	1	1	2	1	Fruit exchanges from list 3
1	1	2	3	5	Fat exchanges from list 6
†	†	†	†	†	Coffee or tea
				1	Milk from list 1
					Bedtime
1	1	1	1	1	Milk from list 1
1	1	2	2	2	Bread exchanges from list 4
0	1	1	1	1	Meat exchanges from list 5
					Midafternoon
				1	Fruit exchange from list 3

* See Table 1 for exchange lists.
† Any amount.

number of selections are allowable from each exchange list for each meal. Appropriate allowable exchanges are so arranged in the meal plan that they correspond satisfactorily to the usual American eating habits for breakfast, lunch and supper. Diets with values for total caloric requirements which occur between the values listed for basic meals are easily altered by adding or subtracting one or more exchange allotments. Meal plans and exchange lists are available to physicians for distribution to patients in booklet form.*

Adequate diet alone will satisfactorily control the diabetes of a large percentage of patients. Patients who are 15 to 20 per cent over-weight, or more, should be placed on a 1,000 to 1,200 calorie diabetic diet and maintained at these caloric values until standard or ideal weights are reached. A diet based on standard weight may then be instituted.

Elderly obese patients, whose diabetes has been discovered late in life, may often be satisfactorily controlled by placing them on a weight reduction diet followed by simple restriction of sugar and pastries. Similarly, patients who are considered potential diabetics should be placed on 1,000 to 1,200 calorie diabetic diets until they have reached standard weight, whereupon simple restriction of carbohydrate may be the only limitation necessary to maintain diabetic control and normal weight. The condition of both types of patients should be followed closely during their lifetime.

INSULIN

Diabetic treatment is designed to maintain standard body weight, normal concentrations of blood sugar and a sugar-free urine. Fifty per cent of patients will be able to meet these requirements by adhering to their diet. The remainder will require insulin. However, of this group requiring insulin, a considerable proportion will be easily controlled and insulin reactions and excessive hyperglycemia will occur infrequently.

Four types of insulin are commonly used. Their actions differ in duration, intensity and speed of onset. A description of each type and its action follows:

Regular and Crystalline Insulin. Clinically these two insulins are indistinguishable. Their action is characterized by almost immediate onset and short duration. After the injection of a moderate dose, concentrations of blood sugar begin falling almost immediately with a maximal action occurring in about three hours. This is followed by a return to original concentrations of blood sugar in about six hours. Because of the brief action of a single dose, and the inability to influence concentrations for long periods, regular or crystalline insulin is now used primarily for emergencies and in combination with longer-acting types of insulin.

Globlin Insulin. This insulin falls between regular and protamine zinc insulin in speed of onset, intensity and duration of action. Initial effects are demonstrable on concentrations of blood sugar in approximately two hours, reaching peak intensity in eight to twelve hours, with a total duration of activity for approximately twenty-four hours. Globin insulin has many disadvantages. It tends to produce hypoglycemia in the late afternoon or evening, but at the same time its action is too weak during the night to control morning fasting values. Because its action is dissipated in twenty-four hours, it does not control post-breakfast hyperglycemia and glycosuria[8]. Globin insulin is activated from its acid solution by alkalization from tissue fluids, and because of the possible variations in degree of precipitation, its effect may vary with each daily injection[9].

Protamine Zinc Insulin. Prolonged action from a single injection gives protamine zinc insulin one of the long-sought characteristics so vital to the maintenance of normal values for blood sugar. A single moderate-size dose releases insulin from its protamine combination slowly with a peak action at twelve to fourteen hours, and exerts continuous depressing action on the blood sugar for twenty-four to thirty-six hours. In many instances protamine zinc insulin also is ineffective in controlling the blood sugar. Because of its relatively retarded lowering of concentrations of blood sugar and the maintenance of these low concentrations for an extended period, post-prandial glycosuria, nocturnal hypoglycemia or both frequently occur[10,11].

Insulin Combinations. In an attempt to provide insulin coverage during the periods of high post-prandial concentrations of blood sugar, various combinations of regular and protamine zinc insulin have been tried. However, excessive amounts of protamine were found to convert a significant portion of the regular insulin to protamine zinc insulin. Col-

*Health Publication Institute, Inc., Raleigh, North Carolina.

well[9] showed that it was necessary to mix at least one part of regular with one part of protamine zinc insulin in order to obtain a definite modification of the action of the latter. Correction of daytime glycosuria and nocturnal hypoglycemia were not obtained until a rate of 2 units of regular to 1 unit of protamine zinc insulin were reached. Sprague[12], by means of clinical trial and error alone, came to the same conclusion, and found the most satisfactory mixtures to lay between 2:1 and 3:1 combinations. One of the major drawbacks of such mixtures lies in the patient's difficulty in preparation and the ever-present possibility of error.

NPH-50 Insulin. Recently a pre-mixed stable unbuffered 2:1 insulin has been developed called NPH-50. This insulin possesses the clinical advantages of the old syringe-mixed 2:1 combinations with an added intermediate time action, and is now considered by many to be its most satisfactory simulator[8,13,14]. Because this new insulin contains only a minimum of unsaturated protamine, regular insulin may be added if needed without comparable loss of its quick action. NPH-50 provides an early and heightened activity during the post-prandial period when concentrations of blood sugar are elevated and a less intense but more prolonged activity at night when the blood sugar is at fasting levels, thus providing action which is distributed and in keeping with the physiologic needs of the diabetic patient. For the majority of patients the timing of NPH-50 insulin represents the most satisfactory action as measured by a minimal number of injections, satisfactory overlap and a relative freedom from hypoglycemic reactions. Compared with other insulins, it shows fewer reactions and when reactions do occur they are more easily recognized by patients[14]. For unknown reasons there is a definite lack of uniformity as to time of day during which reactions occur[15].

Education

Patients with diabetes require treatment for many years, usually for a lifetime, so that the ultimate responsibility for adequate control falls on the patient. The success that is obtained will depend primarily on the adequacy of the training and understanding which is achieved at the onset of treatment of the diabetes[16]. The responsibility for this training and understanding rests entirely with the physician. Education of the patient cannot be accomplished in one or two brief interviews or by presenting him with a booklet. The physician must review each of the following topics systematically and thoroughly with the patient:

Diet. From a simple non-medical explanation of the underlying physiology of diabetes, the patient can be helped to understand the necessity of diet. Meal planning should be discussed carefully to insure complete understanding of all details. If the patient does not prepare his own meals, it is advantageous to have the person who does prepare them present during the discussion if this is possible.

All diabetic patients should understand clearly the grave consequences of poor control and the dangers associated with obesity.

Insulin. The responsibility for insulin regulation and adjustment falls on the physician until stabilization is achieved. During this initial period, the patient should be instructed regarding the filling of the syringe, self-injection and care of his syringe and equipment. Because of the widespread confusion in understanding the differences between U-40 and U-80 insulin, instructions should be specific on this subject. Syringes showing both U-40 and U-80 scales on the same barrel should never be recommended.

Clinical hypoglycemia is both a physiologic and a social problem which every diabetic taking insulin must guard against constantly. Intelligent treatment of insulin reactions depends on early recognition of symptoms and immediate ingestion of sugar in some form. Therefore, this subject must be discussed in detail with the patient. The many variations of subjective symptoms must be described and the need for prompt action at the earliest suspicion of hypoglycemic symptoms must be emphasized. Every patient should carry mints or hard candy at all times. The effect of unusually vigorous exercise on concentrations of blood sugar also must be included in education of the patient.

Testing the Urine. The simplest home method for testing the urine for sugar is the use of Clinitest Reagent Tablets.* When the interpretation of this method has been mastered, instructions should be given for daily testing before each meal and at bedtime (usually at 7:00 A.M., 11:00 A.M., 4:00 P.M. and 9:00 P.M.), during the first week or until insulin regulation is stabilized by the physician. Thereafter, it is sufficient to test the urine twice daily, 7:00 A.M. (before breakfast) and 4:00 P.M. (be-

*Ames Company, Inc., Elkhart, Indiana.

fore supper). All tests must be done on fresh specimens obtained fifteen minutes after an initial emptying of the bladder. Every diabetic patient should understand the importance of testing his urine each day for the rest of his life. He must know that in no other way can he accomplish a satisfactory check on the control of his diabetes.

Adjustment of the dosage of insulin at home frequently is necessary in order to meet the changing needs of both the patient and his disease. The following simple and precise instructions may be presented to the patient to help meet this need:

HOME INSTRUCTIONS FOR REGULATING THE DOSE OF NPH-INSULIN

(1) Fresh specimens of urine should be tested twice daily, before breakfast and before supper.

(2) If results of the urine tests are usually 0, with an occasional 1+ (½ per cent) or 2+ (¾ per cent), do not change the dose.

(3) If results of test are 0 for *3* successive days, decrease the dose *2* units if taking 30 units or less; decrease 4 units if taking more than 30 units.

(4) If the result of either urine test during the day is 3+ (1 per cent) or 4+ (2 per cent) for *3* successive days increase the dose *2* units if taking 30 units or less; increase 4 units if taking more than 30 units.

(5) If an insulin reaction occurs which is not caused by unusual exercise or omission of food, decrease the dose the following day by *4* units if taking less than 30 units; decrease 6 to 8 units if taking more than 30 units of insulin.

(6) If you become ill and are unable to eat, *do not stop taking insulin.* If meals are missed and the urine test shows 0, take half the usual dose of insulin. If, however, the urine test shows 3+ (1 per cent) or 4+ (2 per cent) continue to take the full dose.

The following point may be added to the above instructions for those patients taking small doses of insulin or for those who in time might not require further intake of insulin.

(7) If your insulin dosage has been reduced to 6 units of NPH-insulin, and the urine tests have been *0* for fourteen successive days, you may stop taking insulin, but you must continue to test the urine. If the results of the tests shows 2+ (¾ per cent), 3+ (1 per cent), or 4+ (2 per cent), start taking 6 units of NPH-insulin every day. Then raise the dose, if necessary, according to the directions previously mentioned.

Complications. All plans for education of the patient are incomplete without a frank discussion of the frequent outcome of continued poor control. The vascular, neurologic, retinal and renal complications must be clearly understood by all diabetic patients as the possible outcome of continued abuse and neglect. Diabetic acidosis must be included, with a presentation of its cause, signs, symptoms and prevention. Finally, the patient having diabetes should be urged to have a physical check up semi-annually.

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HISTOPLASMOSIS OF THE LARYNX*

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In recent years we have all heard a great deal about the disease entity histoplasmosis. Most of us are well aware of the relationship of this disease to miliary pulmonary calcification. However, there has been a paucity of information in the textbooks and in the literature regarding the active phases both of the benign and fulminating types. The fact that an active case has recently been diagnosed in Virginia should make all of us more conscious of this infection and should stress the importance of knowing the clinical picture, symptoms, signs and methods of diagnosis and treatment of histoplasmosis.

This report, then, of histoplasmosis of the larynx with a discussion of the general chacacteristics of the disease is being presented for two reasons:

1. Less than 20 cases of histoplasmosis of the larynx have been reported in the literature.

2. To give a simplified description of the clinical manifestations and lesions so that you will be alerted and make a provisional diagnosis of this disease and ask the laboratory for confirmation.

Historical Review. Darling observed the first case of histoplasmosis in Panama in 1906.[1] He believed the disease to be a protozoan infection related to Kala-azar. Subsequent work by Demonbreun in 1934 furnished definite proof that the organism is a fungus.[2] It is called histoplasmosis capsulatum and exists in two forms—one, a yeast-like form which grows in the reticuloendothelial system of man, and the other, mycelial, growing outside of the body. Its habitat in nature, modes of transmission, and portal of entry in the human body have as yet not been determined. Nevertheless, most workers agree that the upper gastro-intestinal and respiratory tracts are the most frequent sites of entrance because of the occurrence of early lesions in the mouth, pharynx, larynx and lungs.

Histoplasmosis is a new medical disease. From 1906 to 1926 no new cases were recognized. At the St. Louis Children's Hospital a review of the autopsies since 1918 revealed no cases of histoplasmosis in the pediatric age group prior to 1942.[3] Since that time ten cases of the generalized type have been diagnosed by autopsy in that institution.[4] Up to 1949 a total of 123 cases had been reported in the literature. In the living patient the first histologic diagnosis of histoplasmosis was made in 1941 on biopsy material from the larynx and confirmed by tissue cultures.[5]

Clinically and pathologically we must recognize the existence of two types of histoplasmosis: first, a benign type which is not uncommon in certain areas; and, second, a disseminated or fulminating type which is relatively rare.

Benign Type. Much evidence has been accumulated during the past few years which indicates that a benign, subclinical form of this disease which radiologically simulates tuberculosis is prevalent in some areas of the United States. The signs and symptoms of the active phase of the benign type are those of an atypical pneumonitis which fails to respond to the usual therapeutic measures, but which slowly clears up. It leaves its mark in the form of diffuse minute pulmonary calcification and a positive histoplasmin test. A typical case of the active phase of benign histoplasmosis was reported by Kunstedter, Whitcomb, and Milzer in the *Journal of Laboratory and Clinical Medicine,* December, 1949.[6]

The patient was a twelve year old colored boy with clinical findings of atypical pneumonia. The course of the infection was followed from the onset through the stage of pulmonary infiltration to healing as manifested by beginning pulmonary calcification. H. capsulatum was isolated from the blood and bronchial secretions obtained during the acute stage. The patient had a positive complement fixation test at the height of the pulmonary infiltration which persisted to the time of beginning calcification four months later. He also had a positive histoplasmin skin test.

Disseminated Type. In the disseminated type of

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histoplasmosis the symptoms and signs vary in the individual cases. Initial lesions may be ulcerations or granulations of the nose, mouth, pharynx or larynx, which are extremely painful. Fever is usually low grade, but may be absent. Night sweats, anorexia, weakness, and weight loss occur during some stages of the disease. Characteristically histoplasmosis attacks the reticuloendothelial system with involvement of the liver, spleen, lymph nodes and bone marrow. Thus, there is some degree of lymphadenopathy and enlargement of the liver and spleen. Hypochromic anemia and leukopenia are usually present. Pulmonary lesions occur in about one-half the cases. The adrenal glands are frequently involved with the subsequent development of Addison's disease.

The disseminated type of histoplasmosis must be differentiated from the following diseases:

1. Tuberculosis.
2. Syphilis.
3. Carcinoma.
4. Other fungus diseases, e. g., blastomycosis, coccidiodomycosis, etc.

Histoplasmosis belongs to the general group of chronic infectious granulomas and it possesses no specific cytologic characteristics which separate it from this group. When it is co-existent with another infectious granuloma caused by a specific organism, it is usually impossible to determine microscopically which reaction is caused by histoplasmosis capsulatum and which by the co-existent organism. This simultaneous occurrence of another pathogenic organism with this fungus is not rare. The second type of infection is often tuberculosis.

Diagnosis. The fact that the diagnosis of either benign or disseminated histoplasmosis cannot be made by the clinical examination must be emphasized. Laboratory facilities must be relied upon in making the diagnosis with the following:

1. Histoplasmin test.
2. Complement fixation test.
3. Biopsy.
4. Smear and culture from lesions, blood, bone marrow or sputum.

Prognosis. As to prognosis, in the benign type of histoplasmosis the mortality is low. In the disseminated type the mortality is high.

Treatment. The benign type of histoplasmosis is treated symptomatically and with potassium iodide in massive doses. If the latter is not well tolerated, sodium iodide can be administered intravenously.

Symptomatic and supportive measuree are used in the disseminated type. Treatment with pentnucleotide, fuadin, irradiation, neostam, sodium thiosulfite, sulfonamides, autogenous vaccines and various other drugs have proved of little value. Antibiotics are contraindicated. When penicillin and streptomycin are added to a culture medium they stimulate the growth of histoplasma capsulatum.[7]

Ethyl vanillate, a fungicidal agent which is a by-product of the pulp manufacturing process, shows considerable promise in the treatment of generalized histoplasmosis. Christie treated twelve patients with progressive disseminated histoplasmosis with ethyl vanillate.[8] Five of these patients are alive and apparently well following treatment, an experience not previously encountered or reported in the literature. In infants he recommends a dosage of 0.5 gm. per kilo of body weight per 24 hours in divided doses and this to be increased in steps of 0.5 gm. every five to six days until a dosage of 1.5 gm. per kilo of body weight per day or the desired blood level is obtained. Blood levels must be high—somewhere between 20 and 30 mgm. per 100 cc. Below 10 mgm. per 100 cc. is ineffectual, while above 50 mgm. per 100 cc. may damage the liver and kidneys. Daily blood level determinations are necessary. As deaths have resulted from its use, it is recommended only for severe and critical cases.

Investigators have shown that stilbamidine when tested *in vitro* against histoplasma capsulatum was effective in concentrations from 10 to 100 mgm. per cent.[9] Although this drug has been used successfully in the treatment of blastomycosis, its use in disseminated histoplasmosis has not been too encouraging.[10,11,12] The use of propamidine, which is in the diamidine group with stilbamidine, has been suggested because of its inhibition of certain fungi in low concentrations.[13]

LeJeune reports the prompt subsidence of laryngeal lesions of histoplasmosis using a spray of 5 mgm. of promine every three hours and 4 mgm. of promine intravenously three times a day.[5] However, this patient later showed evidence of involvement of the adrenals. In general, treatment with promine has been discouraging.

CASE REPORT

A 46 year old white male high school instruction

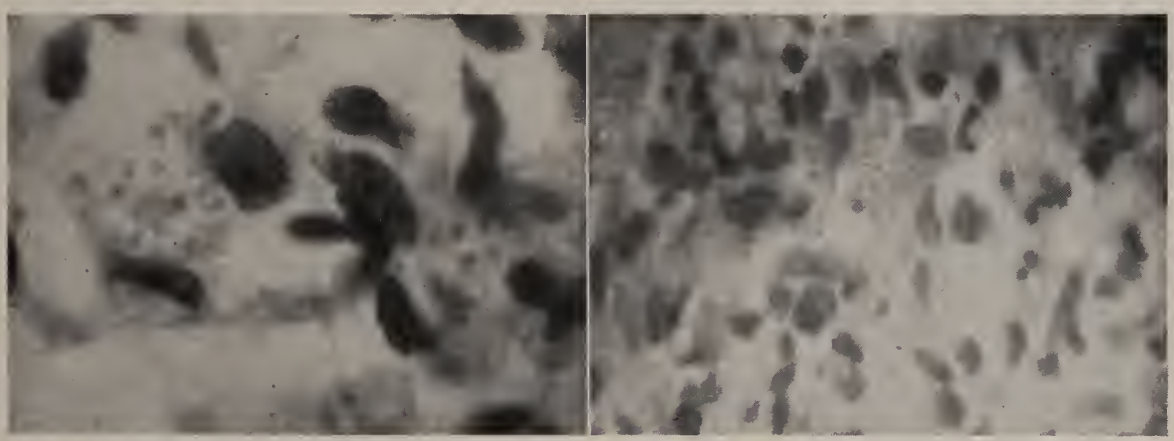
director was referred to our office June 7, 1951, by his family physician because of a granular pharyngitis which did not respond to treatment. He complained of moderate dysphagia and an irritated throat. He had been easily fatigued and listless and had recently recuperated from virus pneumonia. He had lost 25 pounds in weight and had been running a nocturnal fever of 100°F. A review of his past history revealed that several years previously a tentative diagnosis of Boeck's sarcoid had been made.

Examination of the pharynx revealed a granular pharyngitis. Indirect laryngoscopy showed the mucosa of the larynx to be pale and slightly edematous. The epiglottis was quite pale, edematous and was covered by a granulomatous lesion. Our impression was that this patient had a chronic pharyngitis and laryngitis of inflammatory origin. He was treated with the usual local measures, elimination of irritants to the throat, general symptomatic and supportive measures by his family physician, penicillin, chloromycetin and streptomycin with no improvement in the local lesions or in his general condition. A chest *x*-ray showed minor changes suggestive of Boeck's sarcoid which had been seen on previous x-rays and no change was reported. On July 2, 1951, tissue was removed from the epiglottis for biopsy. From this tissue a diagnosis of histoplasmosis was made.

The patient was sent to the University of Virginia Hospital. The histoplasmin intradermal test was negative in a dilution of 1:10,000. However, complement fixation test was positive in a dilution of 1:2,048. Two small grayish brown ulcers with thick crusts were found in the left parieto-occipital area and two similar lesions were in the left malar region. Biopsy from one of the scalp lesions showed histoplasmosis. A diagnosis of disseminated histoplasmosis was made.

On July 25, 1951, the patient was started on large doses of ethyl vanillate. On August 1, he had an Addisonian crisis which was successfully combated with adrenal cortical extract, whole blood, and glucose in physiologic saline. Subsequently, the symptoms were well controlled with cortisone.

On August 13, 1951, the patient was transferred to the Veterans Administration Hospital, Roanoke, Virginia, where the same regime was continued. A very complete discussion of the treatment of this patient here was published by Drs. Ellis, Scott and Miller in the *Journal of Antibiotics and Chemotherapy*, July, 1952.[14]



Photomicrograph of tissue from epiglottis showing histoplasmosis capsulatum

The ethyl vanillate was given intermittently in increasing doses until by October 10 he was receiving 6 gms. every four hours. On November 25 the administration of ethyl vanillate was discontinued. During the last month of therapy a blood level between 15 and 28 mgm. per cent was maintained.

From August to December the patient gained 51 pounds in weight. In October and November all of the cutaneous lesions, except one, healed. The latter, a lesion of the elbow, finally healed in January, 1952. However, the granulomatous lesion of the epiglottis remained the same. Because of the *in vitro* studies showing the effectiveness of diamidines against fungi, a decision was made to use propamidine locally on the epiglottis.[13] Since the action of propamidine is stepped-up by varidase, this drug was likewise used locally preceding the pro-

pamidine. Accordingly, the patient received two courses of propamidine and varidase sprayed locally on the epiglottis four times a day for fourteen days. Shortly after the last course, the epiglottis appeared normal, except for scarring.

During this course of treatment and continuing up to the present time, the patient has received specific treatment for the Addison's disease.

The patient has gotten along well and has shown no signs of recurrence of the lesions of histoplasmosis. Thus, one would conclude that in this patient a remission in progressive disseminated histoplasmosis was apparently induced.

Laryngeal Findings. The laryngeal findings of histoplasmosis are characterized by extreme edema of the laryngeal mucosa and by the presence of granulomatous lesions which may be diffuse or nodular. These lesions bleed less when traumatized than do most granulomatous lesions. Dean reports a case where the epiglottis was thick, nodular and pale and the whole interior of the larynx white and nodular.[5] Clerf describes a case of laryngeal histoplasmosis which closely resembled carcinoma.[5]

When extreme edema with granulomatous lesions are present in any chronic laryngeal condition, one should be alerted for possible histoplasmosis.

In conclusion, I would like to emphasize several points:

1. Histoplasmosis is a relatively new disease caused by a fungus which requires additional emphasis on diagnosis.
2. It is related to minute, diffuse pulmonary calcification.
3. The active phase of the benign type may simulate atypical pneumonia and is frequently undiagnosed. It has a good prognosis.
4. Disseminated histoplasmosis is relatively rare and has a high mortality. It must be differtiated from other granulomas.
5. Ethyl vanillate shows definite promise in the treatment of progressive disseminated histoplasmosis. Propamidine may be of use in the treatment of histoplasmosis of the larynx.
6. When edema and granulomatous lesions of the mouth, pharynx and larynx are seen, histoplasmosis should be ruled out.

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Medical Arts Building.

ADENOCARCINOMA OF THE SMALL BOWEL

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Malignant tumors of the small bowel are infrequent compared with the other parts of the gastro-intestinal tract. Raiford[2] reports that 11% of 986 gastro-intestinal tumors occurred in the small bowel. Of these 42% were malignant. The Armed Forces Institute of Pathology records 146 malignant small bowel tumors classified as follows: Leiomyosarcoma (34 cases recorded), lymphosarcoma (2 cases recorded), malignant carcinoid (28 cases recorded), adenocarcinoma (78 cases recorded), neurofibrosarcoma (1 case recorded), fibrosarcoma (2 cases recorded), hemangioendothelioma (1 case recorded). Mayo[1] reported 66 cases of adenocarcinoma of the small bowel of which only eight were alive five years after surgery. He attributed the poor prognosis to the high incidence of metastases already present at the time of diagnosis. This emphasizes the necessity of the awareness of such lesions when considering the differential diagnosis of intestinal obstruction.

The following case is typical in that it shows the usual presenting symptoms of intestinal obstruction and the distant metastases present at the time of diagnosis.

Report of Case

A 53 year old white female was admitted to the U.S. Army Hospital, Fort Belvoir, Virginia, 15 October 1952, with a history of nausea and vomiting for approximately six weeks. The vomiting occurred usually three to four hours after the evening meal. There was no pain. The symptoms occurred during a time of emotional and physical stress and her doctor attributed the nausea to psychic reasons. She was treated with belladonna. The vomiting became worse, however, and began to occur three to four hours after every meal. She was scheduled to have a gastro-intestinal x-ray series as an out-patient. However, a few days later she vomited several times and had a severe constricting pain in the lower thorax, radiating into the back, with profuse perspiration and weakness. She was admitted to the hospital with an admission diagnosis of cholecystitis. System review and past history were not contributory. Positive physical findings were limited to the abdomen which showed a slight tenderness to the left of the umbilicus. There was no distention. Peristalsis was normal. She was scheduled to have a gall bladder series and gastro-intestinal series. A flat plate of the abdomen revealed nothing significant. Gastro-intestinal series, taken on 25 October 1952, surprisingly showed a nearly complete obstruction in the jejunum approximately twelve inches below the ligament of Treitz (Fig. 1). The jejunum proximal to this obstruction was tremendously dilated. An x-ray diagnosis of intussusception, adhesions or gallstone ileus was made. At this time she was seen by the Surgical Service and it was decided to do an operation as soon as she could be prepared. The pre-operative diagnosis was benign or malignant neoplasm of the jejunum. She was operated on 26 October 1952 through a left upper rectus incision. The proximal twelve inches of jejunum was found to be tremendously dilated and thickened above a napkin-ring type obstructing carcinoma. Bowel distal to this was collapsed. Regional lymph nodes were enlarged and hard. There were multiple peritoneal implants over the serosal surface of the entire bowel, over the peritoneum of the anterior abdominal wall and on the serosa of the liver. It was decided that, although any surgery would be purely palliative, a resection of the tumor would be done to relieve the obstruction. The tumor, adjacent bowel, and regional vessels and lymphatics were removed. Bowel continuity was restored by end to end anastomosis, doing a dorsal slit on the distal stump to make the lumen large enough to fit the distended proximal portion. The mesentery was repaired and the abdominal wall closed in layers. Post-operative course was uneventful. A Wangensteen suction was used for forty-eight hours until peristalsis began. She was then given a soft diet. The wound healed cleanly and she was discharged on the tenth post-operative day. Since discharge she has been followed as an out-patient. On the 17th of February 1953 (four months postoperative) the patient was symptom free and eating a regular diet. By April 1953 she had begun to have mild recurrence of obstructive symptoms. Pathological examination of the resected

bowel (Fig. 2) was done by Lt. Arthur B. Chandler as follows: "Arising in the wall of jejunum is a fungating adenocarcinoma, 2.5 x 2.0 x 2.0 cm.; situated 10 cm. from the proximal and 6.0 cm. from



Fig. 1. X-ray showing barium in dilated proximal portion of jejunum with beak-like obstructed end. Note absence of barium below obstruction.

the distal surgical margin, which almost completely occludes the lumen over a distance of 2.5 cm. The carcinoma invades through the wall, and out to the



Fig. 2. Resected portion of jejunum showing:
(1) Dilated proximal portion
(2) Annular carcinoma
(3) Normal distal portion

serosa at the point of a narrow fibrous band-like constriction which circumscribes the bowel with the exception of a space, 0.8 cm., on the abmesenteric side. There is much hypertrophy of the circular muscularis of the proximal jejunum which is dilated to a diameter of 5.5 cm. The diameter of the distal lumen is 2.5 cm. Microscopically the carcinoma is fairly well differentiated; there is a slight central degeneration. *Diagnosis:* Adenocarcinoma, jejunum."

DISCUSSION

Adenocarcinoma of the small bowel may rise from polyps as it does in the large bowel. Adenocarcinoma of the duodenum is uncommon except for those arising in the peri-ampullary region.[3] Other adenocarcinomas are distributed fairly evenly throughout the jejunum and ileum though some series report them more numerous in the jejunum. These carcinomas are often constricting, forming an annular ring about the lumen and completely obstructing the bowel. Microscopically the carcinomas are glandular in nature, showing variable degrees of differentiation, and often extending through all layers to the serosal surface. Symptoms of carcinoma of the small bowel usually are those of obstruction with intermittent pain, nausea, vomiting, and later distention and constipation. Bleeding may occur. Physical examination may reveal distention and perhaps visible peristalsis and borborygmii. Carcinomas of the small bowel are usually not palpable. Benign tumors and polyps may lead to intussusception; however, adenocarcinomas do not usually cause this. Radioscopic examination may show only obstruction with dilated bowel above it. This differentiates adenocarcinoma from lymphosarcoma which usually presents a long thin segment of bowel, giving a garden hose appearance. Treatment is surgical excision.

SUMMARY

(1) A case of adenocarcinoma of the jejunum is presented.
(2) The clinical picture was that of high intestinal obstruction.
(3) Malignant small bowel lesions are frequent enough to warrant serious consideration in the differential diagnosis of small bowel obstruction.
(4) Prognosis is poor because of early metastases.

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NOTES ON PULMONARY TUBERCULOSIS

Modern Therapy (I) including Drug Therapy Methods

The full impact of specific medicinal therapy and modern surgery upon tuberculosis has not yet been determined.

To date, nothing is known about the new treatment aids to justify the slightest relaxation of effort to expand and financially implement standard time-tested tuberculosis control measures. Indeed, new discoveries and therapeutic procedures should serve to accelerate existing programs for only by these means can potentialities of each new weapon be fully exploited.

Surgery has obvious limitations.

Nor has it *yet* been proven that any new drug or combination of drugs is *completely* curative, *even for the earliest of minimal lesions,* or for healing the residual active foci which invariably remain following *any* type of surgical extirpation.

Basic Treatment

It is strongly urged that practicing physicians continue to prescribe systemic (body)* rest as *basic* treatment for *all* cases of active pulmonary tuberculosis. Surgery and drugs should be employed primarily as adjuvants to, or as partial substitutes for, systemic rest. In the present state of knowledge any other course would be extremely hazardous and ill-advised.

Basic treatment of active pulmonary tuberculosis consists essentially of a trial rest schedule, in bed or out, followed by such modification as may be indicated to contribute whatever share may be demanded of it to achieve over-all treatment requirements. Need for alteration of a rest schedule will be determined by the patient's progress or lack of progress, in response to the one in force, and as influenced by ancillary collapse therapy, surgical or medical aids, when prescribed.

While time-honored advice to patients, that "all that is not rest is exercise" is still a wholesome point of view to bear in mind, sight should not be lost of the fact that the *reverse* is *also* true and equally important, i.e., "all that is not exercise is rest"; inherently, the two are mutually exclusive. Accordingly, systemic rest, whenever taken during the day, contributes to the *sum total* obtained each twenty-four hours. In any given case, as long as *any* rest is taken *expressly* for the purpose of "controlling", or for permanent healing (clinically) of active tuberculosis, not only is it simpler but much more practical and realistic to regard *all* rest obtained each twenty-four hour period as part and parcel of basic treatment.

*Includes, but is by no means limited to, rest-in-bed.

Sanatorium Care—In A Sanatorium

Need of sanatorium care, or the equivalent, is, for the most part, to be considered categorical when sputum is positive for tubercle bacilli on direct examination (smear) or by concentrate, regardless of stage of disease; when x-ray shows a far-advanced active lesion with or without cavitation even though sputum or gastric lavage culture be positive only intermittently; when x-ray shows a moderately advanced lesion with cavitation; when lesion visualized by x-ray appears to be highly unstable; when patient is persistently febrile. Exceptions would be the occasional "good chronic" for whom a sanatorium has little to offer by way of treatment and whose home environment and sense of responsibility in relation to degree of communicability, are such as not to expose others to undue risk of infection.

Patients in categories other than these will be recommended by many physicians for sanatorium care and properly so but, in general, it is requested that applications be limited to patients having a *definite* diagnosis of tuberculosis, and whose need for hospitalization is based upon what the attending physician considers to be a clear-cut medical and/or surgical need (in contrast to "rule of thumb"). In this way, not only can sanatorium beds be utilized to the best advantage, but many *needless* castastrophic adjustments and sacrifices can be obviated for patients given a chance to prove they can get well "on the hoof", as mass x-ray surveys indicate six out of ten of their neighbors and friends, diagnosed as tuberculous, have already done.

SANATORIUM CARE IN THE HOME— A POOR EXPEDIENT

The safest place by far for the great majority of tuberculous patients *recommended* for sanatorium care, *or the equivalent,* is to accept treatment in a sanatorium, and *to forget the equivalent,* except as a temporary expedient while awaiting placement.

When prescribed sanatorium care cannot be secured promptly the patient should be put to bed at home; with few exceptions drug therapy will be employed concurrently. (Ninety per cent or more of patients in the State sanatoria receive specific drug therapy).

DRUG THERAPY METHODS

Streptomycin (plain), P.A.S., and Isoniazid, are each recognized as extremely useful agents in modern treatment of tuberculosis. All are available at our State sanatoria.

Consensus now appears to be that none of the drugs should be prescribed alone. P.A.S., by itself, is not too effective therapeutically in non-toxic amounts. When streptomycin is administered alone, one gram daily, some degree of vertigo and deafness can be expected to appear in less than fifty days, and a very high percentage of the tubercle bacilli will have become resistant to the drug. When the same dosage is given twice weekly, toxic effects are seldom observed, emergence of resistant organisms in numbers sufficient to jeopardize therapeutic effectiveness, is delayed for as long as four months. Isoniazid, when given alone, is almost devoid of toxic effects when properly administered, but produces resistant strains even more rapidly than does streptomycin, alone. *But* when streptomycin (twice weekly) is used with either P.A.S. or Isoniazid, evolution of strains resistant to the individual components of either combination is *tremendously* retarded, and the therapeutic effectiveness of each drug is prolonged almost indefinitely. Moreover, some degree of synergism is thought to exist under combined therapy.

AVERAGE DOSAGE

Currently "standard" average dosage for practically all adults* consists of streptomycin (plain) grams one, twice weekly, combined with P.A.S. grams twelve daily, and/or Isoniazid 3-5 mgms per kilo body weight, with a recent trend toward the higher dosage.

Isoniazid may be substituted where P.A.S. is not well tolerated, usually because of gastro-intestinal symptoms; either drug (with streptomycin) may be substituted for or added to the other, when lesions fail to respond satisfactorily, or where there is some idiosyncrasy.

Possible benefits which might obtain from combined use of P.A.S. and Isoniazid (without streptomycin) have not been fully explored at the State sanatoria or elsewhere. A number of studies, as yet unreported, are in progress in other States to determine this, as well as to ascertain the capacity of each to retard evolution of resistant strains to the other; research, if successful in this field, would of course, reduce over-all cost of drug therapy and obviate use of a needle for administration.

There are some who advocate routine use of all three drugs from the beginning, but most physicians prefer to individualize their treatment practices to the extent described above.

Dihydro-streptomycin is no longer being used as widely as formerly, because the drug seems to be no more effective therapeutically than plain streptomycin, and it apparently has a greater tendency to cause some degree of lasting deafness—occasionally *beginning* several months after the drug is discontinued. However, it can be tried in instances where plain streptomycin is not well tolerated.

A combination of streptomycin and dihydro-streptomycin in equal parts has recently been made available commercially, but to date has not been used upon an extensive scale at any of the State Sanatoria in Virginia; when streptomycin and dihydro-streptomycin are given together and in the same total dosage as with either drug alone, the combination is reputed to have fewer toxic effects on the eighth cranial nerve than with either drug alone.

MILIARY TUBERCULOSIS, MENINGITIS, PNEUMONIA

In miliary tuberculosis and tuberculous meningitis, and in many cases with acute pulmonary involvement it is advisable, in adults, to increase streptomycin dosage to one to two grams daily. This dosage may usually be maintained safely for several weeks without adverse effect but should be reduced to the recommended twice weekly administration as soon as the patient's condition warrants it. Where streptomycin is administered daily in this manner, a com-

*Dosages of streptomycin and P.A.S. for children, are usually decreased in proportion to weight. In adults, it is customary not to greatly vary dosage, irrespective of weight.

bination of streptomycin and dihydro-streptomycin might be worthy of consideration as an added precaution!

P.A.S. in routine amounts as recommended above should be prescribed concurrently. Isoniazid should always be included in treatment of the acutely ill case because of its well known ability to penetrate and effect high body fluid concentration (including spinal fluid), as well as its not infrequently observed propensity to bring about a very rapid reduction in acuity of symptoms. Up to seven mgm per kilo body weight may be used. In this dosage, however, frequent check of reflexes should be made, since excessive irritation of the central nervous system, even convulsions, may result. Such combined use of Isoniazid makes unnecessary the intrathecal use of streptomycin; the latter has for some time been virtually abandoned for injection by this route because of chemical irritation of meninges, adhesion formation, and obstruction to circulation of spinal fluid, resulting in permanent brain damage with mental retardation, or worse, in many of those who survive.

Caution should be exercised in the administration of any of the drugs in patients with poor kidney function, where usual amounts may produce symptoms of over-dosage.

* * * * * * * *

Sanatorium applicants awaiting notification of a vacancy sometimes improve so much symptomatically while on drug therapy at home that their applications are cancelled.

Just as patients have *always* been cautioned against misinterpretation of the rapid symptomatic improvement often observed within a few weeks or months after going to bed, so the larger group today, who respond "miraculously" to the new combination of systemic rest and drug therapy, must be warned not to regard an early *alleviation* of symptoms as the most important yardstick for measuring speed of recovery. *Complete elimination* of *all* symptoms is a sine qua non, *if* the goal is *cure* rather than "control", and this may require many months in the patient whose original need for sanatorium care was well-founded. Clearing of shadows on x-ray caused by tuberculous processes, does not begin to keep pace with symptomatic improvement—under *any* form of therapy.

This should be explained carefully to every sanatorium applicant and his family, *before any* form of treatment is initiated at home.

Clearly, therefore, cancellation of an application should never be considered except upon a basis of total re-evaluation of the patient's condition (including x-ray); where possible the record of "sanatorium care at home" should be reviewed, and where practicable, the patient should be examined by a tuberculosis specialist at this crucial point, to be "doubly sure". Upon one of the darkest pages in the history of tuberculosis is recorded the huge roster of *curable* patients—who took only enough treatment to keep from dying (too soon!). Let it *never* be said of the new drugs that "They made it possible for *more* people to get *half* well *sooner!*"

A Christmas Tradition.

The sight of happy children singing carols is symbolic of Christmas, of the spirit of giving that belongs to the season. The National Tuberculosis Association and its 3,000 affiliated associations have chosen this symbol for 1953 as an expression of their major objective—to prevent and control the spread of tuberculosis—so that our young people may grow up in a healthier, happier world.

Here in our state, the Virginia Tuberculosis Association was organized in 1909 and since that time 112 local associations have been developed. These voluntary organizations include physicians and laymen from all walks of life, who give freely of their talents and of their means, to further the cause of tuberculosis control and eventual eradication.

The season is approaching when you and your neighbors will be asked to make your annual contribution through the purchase of Tuberculosis Christmas Seals. This marks the 47th year that these little stamps have financed the work of our voluntary associations. Your purchase of Christmas Seals will be deeply appreciated.

MEDICO-LEGAL NOTES

Workmen's Compensation for Tuberculosis in Hospital Employees

Since 1944 the Virginia Workmen's Compensation statute has recognized the compensability of occupational diseases, as distinct from traumatic or accidental injuries. In 1952 the Virginia Workmen's Compensation statute was amended to give broader recognition to occupational diseases, especially to infectious or contagious diseases acquired in the course of employment in hospitals or sanatariums. The pertinent section of the Virginia State Workmen's Compensation Statute (Title 65, Virginia Code (Michie) Section 65-42) now reads as follows:

SECTION 65-42. OCCUPATIONAL DISEASE DEFINED

As used in this Act, unless the context clearly indicates otherwise, the term "occupational disease" means a disease arising out of and in the course of the employment. No ordinary disease of life to which the general public is exposed outside of the employment shall be compensable, except: (1) when it follows as an incident of occupational disease as defined in this law; or (2) when it is an infectious or contagious disease contracted in the course of employment in a hospital or sanatarium.

A disease shall be deemed to rise out of the employment only if there is apparent to the rational mind, upon consideration of all the circumstances:

(1) A direct causal connection between the conditions under which the work is performed and the occupational disease.

(2) It can be seen to have followed as a natural incident of the work as a result of the exposure occasioned by the nature of the employment.

(3) It can be fairly traced to the employment as the proximate cause.

(4) It does not come from a hazard to which the workmen would have been equally exposed outside of the employment.

(5) It is incidental to the character of the business and not independent of the relation of employer and employee, and

(6) It must appear to have had its origin in a risk connected with the employment and to have flowed from that source as a natural consequence, though it need not have been foreseen or expected before its contraction.

An infectious or contagious disease contracted in the course of the employment in a hospital or sanatarium may therefore be compensable when it otherwise satisfies the criteria enumerated for an occupational disease in subparagraphs one through six. Prior to 1952 the law provided that in order not to be excluded as an ordinary disease to which the public was generally exposed an infectious or contagious disease would have to be acquired in the course of the employment in a hospital or sanatarium regularly caring for patients with the disease in question as a general practice or, part of their business. Under this prior statute a general duty nurse in a general hospital was denied compensation.

Tuberculosis contracted by student or graduate nurses assigned to duties requiring the nursing of tuberculous patients has now been accepted as compensable.

The law is less liberal when the source of exposure to tuberculosis is a fellow employee. Thus when a cook is exposed to a tuberculous food handler, in a general hospital having a large tuberculosis inpatient service, the exposure may nevertheless be regarded as only a happenstance of the employment and not the product of it, and not related to that special risk associated with the operation of the hospital or sanatarium.

The mere general statistical risk of the hospital physician, nurse or other employee, based on comparative tuberculosis rates between such personnel and the general population, is probably insufficient to satisfy the requirements of the statute. Although it is not required that the time, place and circumstances of the specific causative exposure be conclusively shown, it is necessary to produce evidence which will fairly demonstrate to the rational mind that the disease can be traced to the employment as the proximate cause.

The increased risk incurred by hospital personnel providing direct care for tuberculous patients is obviously meant to be covered by the statute, but Workmen's Compensation is not general health insurance.

A claim under the Virginia Workmen's Compensation Act for tuberculosis in a hospital or sanatarium employee should include the following elements: (1) present tuberculosis—bacteriologically

proven, (2) absence of disease prior to hospital employment—perhaps the best evidence being a negative chest x-ray on pre-employment physical examination, (3) absence of significant specific exposure outside of the employment, (4) duties requiring substantial contact with proven active tuberculous patients or material from these patients, preferably documented in detail.

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New Books.

We give below names of some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These are available to our readers under usual library rules.

Ackerrecht—Rudolph Virchow: doctor, statesman, anthropologist. 1953.
Brailsford—The radiology of bones and joints. 5th ed., 1953.
Brock—The basis of clinical neurology. 3d ed., 1953.
Colby—Essential urology. 2d ed., 1953.
Collins—The pathology of articular and spinal diseases. 1949.
Cope—The early diagnosis of the acute abdomen. 10th ed., 1951.
Ficarra—A psychosomatic approach to surgery. 1951.
Frimann-Dahl—Roentgen examinations in acute abdominal disease. 1951.
Hyman—Handbook of differential diagnosis. 1953.
Novak & Novak—Textbook of gynecology. 4th ed., 1952.
Pomeranz & Koll—The family physician. 1953.
Ritvo—Roentgen diagnosis of diseases of the skull. Vol. 19, 1949.
Shanks & Kerley—A textbook of X-ray diagnosis. 2d ed., 1950-51. 4v.
Shock—A classified bibliography of gerontology and geriatrics. 1951.
Sophian, et al.—The sulfapyrimidines. 1952.
Storch—Fundamentals of clinical fluoroscopy. 1951.
Strong & Elwyn—Human neuroanatomy. 3d ed., 1953.
Tait—Textbook of refraction. 1951.
Wesson—Urologic roentgenology. 3d ed., 1950.
Williams—Careers in medicine. 1952.

AMEF '53 Goal in Sight.

Nearing its 1953 goal of one million dollars, the American Medical Education Foundation reports that donations so far this year have amounted to more than $950,000 from 15,151 contributors. With more than a month remaining of the current year, there is a good chance that the Foundation will reach its goal. The above figures already have established a new record. In 1951, the first year of operation, the Foundation raised $745,000 from 1,836 contributors and last year's receipts totaled $906,553 from 7,259 donors.

In reporting the new income figures, Dr. Louis H. Bauer, Foundation vice-president, pointed out that almost every state and local committee has stepped up activity in conjunction with the national direct mail compaign in an effort to raise additional funds for the country's medical schools. Types of campaigns have varied throughout the nation . . . in some states the committees are using a personal solicitation method while others have adopted voluntary assessments or increasing society dues. Both Illinois and Utah, for example, have voted a $20 increase in state society dues. During the first 10 months of 1953, Illinois raised more than $179,000.

MENTAL HEALTH

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The Dull Child*

Every doctor who is in general or pediatric practice has brought to him from time to time children who are slightly backward in their development, in their school work and in their social relationships. It is soon clear that they are not mental defectives, but it is also seen that they are not entirely normal. The parents, the school (and, frequently, the doctor) does not understand them nor know what to do to help them.

The individual who exhibits an easily recognized defect in intelligence usually receives the care, protection, and special education which he needs and requires. In the lower grades of mental deficiency, this is either institutionalization or else a watchful care in the family home which is in a general sense the equivalent of what he could receive in the institution. Even the higher grades of mental defect frequently go to a state school or its equivalent, where they live during their years of development in an environment that protects them by not demanding too much of them, by segregating them from competition with brighter children, and by confining their education to material which they are capable of assimilating. Such an individual is cared for by the special facilities which have been developed to aid him in his adjustment to life. A different situation, however, exists among the high grade defectives and individuals of borderline intelligence who spend all their lives (and especially their childhood) in the community with their families. We are thinking, in general, of children whose mental level is indicated by intelligence quotients between seventy and eighty-five. Relatively few of these persons reach institutions. They remain in the community, dependent upon resources which are provided for their brighter brothers and sisters and which are woefully inadequate for their needs.

Sometimes the referral is for a reason that is obviously an expression of the intellectual retardation, such as inability to make progress in school, difficulty in learning, etc. More frequently, however, it is some other aspect of behavior that creates a problem and brings the child to the doctor. There may be stealing, truancy, delinquency in matters of sex, inability of parents to control, rebellion against authority, and a host of other difficulties. But when examination brings to light the mental defect which had previously been given scant consideration, its place as a basic factor in the maladjustment becomes clear and it is seen how all the other manifestations are more or less directly dependent upon the lack of intelligence. We do not mean, of course, that other causative factors are lacking, but only that the intellectual deficiency is the one thing necessary to activate them to the point of causing abnormalities of behavior.

The best answer that has been given by our schools to the problems of these slightly backward children has been the providing of special classes, classes in which they can proceed at a rate in keeping with their own abilities and not feel the intense sense of failure that comes from the impossible competition with children of normal intelligence. Unfortunately, few communities in our state have such classes. Where they do exist, there are not enough of them, so that they can care only for the scholars with serious mental retardation rather than for the borderline cases we are considering. These children have to stay in the regular classroom. They soon become failures in the eyes of teachers, parents and companions and, too frequently, of themselves because they receive poor grades and frequently fail at the end of the school year, for the standards of the class are beyond their abilities.

Even the special class may fail of its purpose. Attendance there may become a stigma in the eyes of others. Companions may call it the "dumb-bell class" or, at the adolescent level, the "bum's college". A wise school administration and teaching staff can minimize the effect. Too often, however, they fail to do so. The trouble is usually to be found in the teachers' own attitudes. They look down upon the dull children and see them as nuisances to be avoided rather than as individuals who are in need of help and of specialized instruction. It is little wonder that the backward child comes to feel himself to be an outsider and not a real part of the school situation.

*Article prepared by Gilbert J. Rich, Ph.D., M.D., Director, Roanoke Guidance Center, Roanoke, Virginia.

If the school authorities fail in their duty to the child of borderline intelligence, what may we expect of the parents and siblings? Usually the answer is that they, being ignorant of the psychology of individual differences, have even less understanding of the situation. They know nothing of intelligence levels or mental retardation. Indeed, the latter term would doubtless be a severe threat to a father or mother. The parent cannot see his child as being retarded. Thus, lack of knowledge is complicated by emotional factors, for the admission that a child is retarded is considered by the parent as a reflection upon himself. A wilful, lazy or disobedient child is a different matter. These are considered as characteristics of the boy's or girl's free will and so do not reflect upon father or mother. When the dull child goes to school and finds the work too difficult, he is marked on a standard set for those of normal ability and he soon brings home report cards which contain low grades. A little later, he fails of promotion. Since the parent lacks understanding of the mental retardation (or is unwilling to acknowledge it), the youngster is believed to be lazy. He is told that he is "not applying himself", compared unfavorably to siblings or to the neighbor's children, denied privileges normal for his age, and even punished severely.

Although report cards and promotions are important guides for parental approval and disapproval, they are not the only ones. A child of borderline intelligence does not learn readily around the home. His inability here is not usually recognized, and he is given blame and scoldings because of the things he cannot do. A bright brother or sister only adds to the load of discouragement, both by unhappy comparisons and by direct teasing. The situation is especially bad when the father or mother has an ambition for the youngster that is beyond his ability. We see parents of dull children who are determined that the boy shall go through high school or even college and who use every means possible in their attempt to force this impossible feat.

The difficulties apparent in school and family life also make their appearances in other social relationships. Many of the games of childhood are competitive in nature, and they often involve thought and insight as well as strength and quickness of movement. Here, again, is a competition in which the borderline defective is the loser. In the earlier years, he is merely laughed at. That is bad enough, but worse is to come. Soon there is a change from individual to group games, in which teams compete. Now, no one wants the perpetual loser on his side. The discouraged child becomes an outcast. He cannot make or retain friends. Tricks are played upon him. His companions spurn him, chase him home, or run away from him. He is left to use what weapons are at hand in his fight for a place in life.

It is in this tendency to fight for a life which contains the normal satisfactions that gives rise to the manifestations of difficult behavior which are seen in retarded children. They want approbation, security, love, status, companionship, praise, and freedom from punishments just as much as they would if they were endowed with more adequate intellectual ability. But the whole world seems to be against them and to be denying their insistent needs. Nor can they reason out logical forms of compensation, for logical reasoning is a tool that is, in the main, lacking. Instead, we see a blind striking out against the noxious environmental forces in an effort to find some satisfactions. The forms of this fight are varied. Sometimes it is expressed as rebellion. This is usually directed, first of all, against the parents. Later, it spreads to all authority that serves as parental substitutes. Teachers, like parents, make the child feel inadequate and rejected, and are thus to be rebelled against. Still later, society as a whole takes up this role, and rebellion is now directed against the whole social code in such anti-social activities as stealing, fire-setting, sex misconduct, truancy, and the like.

Each individual of borderline intelligence tries in his own way to fight the forces that are against him. Not all rebel. Some use extravagant behavior to gain their ends. One may find that at home crying, whining, or fighting brings an attention that otherwise is withheld. Another finds his place in the sun by disturbing the classroom, especially when they are talking about something that he cannot understand. Or, failing to make or keep friends, he may steal money so as to buy candy for use as bribes to friendship. Another common situation is that of the boy (or girl) who is an outcast among well-behaved children, but who finds himself readily accepted in a delinquent group if he will join in all their activity. He does so promptly, not merely because he is suggestible, but mainly because he is

so in need of being accepted by somebody. Unfortunately, his dullness often leads to his being apprehended by the law while the others escape. Similarly, the adolescent girl finds herself lacking the ability to attract boys as friends, for she is a poor conversationalist, lacks social graces, and has no abilities that would make her popular. But her need is as great as that of her brighter sister. Her sex is the only means she has of accomplishing her desires, and the resulting delinquency is easy to understand. So long as the social situation is such that the borderline defective is again and again made to feel inferior, rejected and inadequate, just so long will he make use of abnormal and anti-social means of compensation.

Attempts to meet the basic needs of these children, and thus to avoid some of the difficult situations and abnormal forms of compensation which we have enumerated, encounter numerous obstacles. The essential fact is that the various agencies in the community, be they educational, social or religious, are planned for persons of average intelligence. The state is supposed to take care of the feebleminded, and all others are considered to be normal. But the borderline defective is not feebleminded and cannot be cared for by the state. Unfortunately, he is not normal, and, therefore, cannot adjust to the institutions that society has set up for its collective benefit.

The situation is even more difficult when we turn to organizations in the social field. One of the difficulties that our patients face is that of making themselves acceptable to their companions. It is here that we should normally look to the group-work agencies for help. We should like to have the children introduced into controlled and supervised groups, taught how to get along with others in the wholesome way, and given a feeling that they belong and are appreciated. But the same trouble appears. The groups are geared to normal intelligence. Take, for example, the Boy Scouts and Girl Scouts, two excellent organizations that are doing fine work with bright children. Their programs, however, are highly competitive in nature. The system of grades and awards as the result of passing various tests is stimulating to the boy or girl who succeeds. But how about the one whose intelligence is not sufficient to make success possible? He fails to advance in grade and soon becomes discouraged. I am not saying this in criticism of the Scouts but merely to show how a well-developed organization may not meet the needs of the borderline defective. Other examples can easily be found. Recreational groups tend to be organized about activities in which something more or less concrete is accomplished, and ability to engage constructively in the particular activity is made the measure of acceptance in the group. Wherever this happens, the duller children are at so great a disadvantage that the agency cannot be used as an aid to their development. It would be harmful rather than helpful to place them in situations which would eventually lead only to further failure and further discouragement.

We have, as a society, provided for many types of deviates and dependents. We have large institutions for mental defectives and also for delinquent or dependent children of normal intelligence. We likewise have schools geared to the needs of normal children, or with special classes for those markedly deficient. Recreational agencies are similarly for those who are at least of average brightness. But dull children fit into none of them. Their adaptability is poor, yet they are expected to adapt to situations unsuited to them.

This, of course, is the essence of the matter, and the challenge that the borderline defective presents to the physicians, psychologist, social worker, group leader and teacher who deals with him. He is emotionally not really different from the person of better intelligence. But the normal outlets for the satisfaction of his needs are closed because of his disability. The special outlets provided for the feebleminded are not available. They are not suited to him, and do not exist in sufficient quantity. He is truly a forgotten and neglected individual. Often he is unhappy and maladjusted. Often, too, he creates a problem for school, neighborhood and law-enforcing agencies. The challenge can be met only when the needs of the borderline defective are recognized as such and when he is treated as a person who is worthy of attention.

The task of the doctor who sees such a child is educational in nature. He must educate the parents, the school and the community to see and to accept the dullness as a pathological condition that requires understanding and help rather than as a disgrace to be hidden or a willful wickedness to be treated with

derision, teasing, shaming and punishment. Parents have to be helped to accept their dull children as such, neither forcing them beyond their abilities nor being ashamed of their backwardness. They must learn that poor grades and occasional failures in promotion are to be expected and that their job is to ease the pathway of the backward child rather than to make it more difficult. Home, after all, is the primary source of a child's emotional security. Unless he receives acceptance and satisfaction in a normal manner there, he will seek it by abnormal behavior somewhere else. Here, as in other conditions, an ounce of prevention is worth a pound of cure. The doctor is in a strategic position to apply that ounce of prevention in the advice that he gives to the parents.

New Drug Effective in Treating Toxemia of Pregnancy.

Protoveratrine, a relatively new drug, is a valuable adjunct to the obstetrician's armamentarium in the management of toxemia of pregnancy, in the opinion of Dr. Edward Meilman, Boston, (Oct. 10 J.A.M.A.). Toxemia of pregnancy, a series of pathological conditions occurring in pregnant women, is characterized by rapid weight gain, accumulation of fluid, disturbances of vision, high blood pressure, headache, excessive albumin in the urine, and convulsions.

Although use of protoveratrine is not intended to replace certain fundamentals of treatment in toxemia such as bed rest and sodium restriction, it offers prompt control of the symptoms, according to Dr. Meilman.

He reported on the use of protoveratrine in 17 pregnant women suffering from various forms of toxemia of pregnancy. In all cases, prompt relief was obtained following use of the drug.

The primary disturbance responsible for toxemia of pregnancy remains unknown, Dr. Meilman pointed out. In many instances, toxemia develops so early in pregnancy that the chances of fetal survival with immediate delivery are small; if the fetus remains undelivered, intrauterine death often occurs. By the judicious use of protoveratrine such patients, in some instances, may be carried for several weeks, until reasonable maturity of the fetus is reached, before instituting necessary obstetric measures, thus improving the chances of fetal survival, he added.

According to the author, the number of cases he described is too few for final determination of the value of the drug, but he said he believed the preliminary tests indicated its effectiveness.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Tularemia

Though the opening of the hunting season has been delayed this year because of the excessive dryness of the woods due to lack of rainfall, it is timely to recall that infections with Pasteurella tularensis (Bacterium tularense) are more common at this season. This disease was first discovered in a naturally infected wild animal and soon thereafter was recognized as a disease of man. In the United States it occurs in every month of the year, but especially during the rabbit hunting season.

Tularemia is a disease of which the bacterial origin, seasonal incidence, geographic distribution and zoologic distribution, have been thoroughly studied. The source of infection may be through wild rabbits and hares, deer fly (Chrysops discalis), tick (Dermacentor andersoni and Dermacentor variabilis), woodchuck, coyote, muskrat, opossum, tree squirrel, ground squirrel, quail, skunk, cat, dog, fox, hog, deer, sage hen and bull snake. In Virginia the chief offenders in transmitting the disease to man are the wild rabbits and hares. Man becomes infected through handling and skinning these animals. Infection may occur through the ingestion of insufficiently cooked rabbit meat. Refrigerated rabbits kept constantly frozen at 5° F. may remain infective for 3½ years. Drinking contaminated water has been said to cause the disease. Laboratory infections are not infrequent.

The infectious agent of tularemia may be found in the blood of man during the first two weeks of the disease and in the lesions up to a month from onset and sometimes longer. The disease is not communicable from man to man by mere contact. All ages are susceptible. The incubation period may vary from 1 to 10 days, usually not over 5 days, and averages about 3 days. The onset is sudden, with headache, vomiting, chills, aching, weakness and fever. Fever is always present; there is an initial rise, a remission and a secondary rise. There is a moderate leucocytosis. A skin eruption may occur. There is usually a primary ulcer at the site of infection with resulting bubo of the lymph nodes which drain the site. Prostration is marked and weakness on exertion may persist for months. The active state of the disease lasts from 2 to 3 weeks. Convalescence is slow and during the third month the patient may be able to be at work only part-time. Permanent immunity follows recovery from an attack.

The agglutination test is most reliable and is a valuable aid in confirming the diagnosis. Serum from the blood taken during the second week will show agglutination of P. tularensis in rising titer. Rest in bed is highly important and the patient cooperates well on account of weakness.

Streptomycin is the drug of choice for treatment. One gram per day in divided doses every 3 hours day and night, for 5 days, given intramuscularly, is the usual dose; some patients may need less and a few may need more.

Preventive measures in the control of tularemia are:

1. Avoidance of the bites of, or handling of, flies and ticks when working in infected zones during the seasonal incidence of blood sucking flies and ticks.

2. The use of rubber gloves by persons engaged in dressing wild rabbits and hares. Thorough cooking of the meat before eating is necessary.

3. Avoidance of raw drinking water in areas where the disease prevails among wild animals.

Human cases of tularemia should be reported to the local health department and investigation of the source of infection should be undertaken in each case.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE

	Oct. 1953	Oct. 1952	Jan.-Oct. 1953	Jan.-Oct. 1952
Brucellosis	4	1	52	34
Diphtheria	9	40	72	113
Hepatitis	213	66	2059	618
Measles	60	44	4665	15579
Meningitis (Meningococcic)	11	13	166	165
Poliomyelitis	88	107	682	623
Rocky Mt. Spotted Fever	3	1	59	75
Scarlet Fever	45	36	703	595
Tularemia	2	0	25	42
Typhoid & Paratyphoid	8	10	70	81
Animal Rabies	33	30	381	402

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President Mrs. K. W. Howard, Portsmouth
President-Elect Mrs. Maynard Emlaw, Richmond
Recording Secretary Mrs. Lee S. Liggan, Irvington
Corresponding Secretary—
Mrs. Lemuel E. Mayo, Portsmouth
Treasurer Mrs. William C. Barr, Richmond
Publication Chairman Mrs. Wm. S. Grizzard, Petersburg

Arlington Auxiliary.

The annual membership tea given by the Woman's Auxiliary to the Arlington County Medical Society for new members was held at the home of the President. Mrs. Lee B. Martin on October 13th, 1953.

A large number of the members attended, together with their guests, prospective new members. A very pleasant social afternoon get-together followed.

Warwick-Newport News Auxiliary.

Mrs. Barnes Gillespie, president, has named the following committee chairmen for 1953-1954:

Mrs. Paul Hogg is chairman of the program committee; Mrs. Frederick Nimrod Thompson, Doctor's Day; Mrs. Ward Anderson, Jr., Mrs. William T. Watkins, Jr., membership; Mrs. Waverly R. Payne, cancer; Mrs. Guy C. Amory, publications; Mrs. Louis J. Richman, publicity; Mrs. Vincent Lascara, rolling library; Mrs. W. J. Baggs, bulletin; Mrs. J. W. Carney, civil defense; Mrs. Murray Dick, today's health; Mrs. Melvin L. Horne, legislative; Mrs. G. S. Hankins, public relations; Mrs. Thomas N. Hunnicutt, Jr., nurse recruitment and Jones award; Mrs. F. S. Beazlie, Jr., American Medical Education Foundation; Mrs. Alvin Mirmelstein, mental health; Mrs. O. W. Booth, Jane Todd Crawford, Mrs. W. A. Read, hospitality.

The committee chairmen were announced at a luncheon meeting of the auxiliary held at the home of Mrs. Thomas C. Lawford on River Road, Hilton Village, and plans were made at this time for the annual bazaar, which was to be held November 11 in Mary Immaculate Hospital. The next meeting will be held November 18 at the home of Mrs. John F. Gayle.

Mrs. J. W. Carney gave a report on the State convention of the Woman's Auxiliary to The Medical Society of Virginia, which was held in Roanoke.

Officers of the Woman's Auxiliary to the Warwick-Newport News Medical Society to serve with Mrs. Gillespie are Mrs. William Goldsmith, vice president; Mrs. Quentin J. Legg, secretary; Mrs. F. A. Carmines, treasurer; Mrs. Thomas C. Lawford, historian; Mrs. T. W. Caldroney, corresponding secretary.

Dallas to Be Scene of Rural Health Conference.

Calling for all-out community "teamwork," the ninth National Conference on Rural Health will stress the importance of individual participation in community affairs at the March 4-6 sessions in the Baker Hotel, Dallas. Sponsored by the AMA's Council on Rural Health, the Conference theme will be: "Let's Put More 'U' In CommUNITY."

Leaders in the fields of medicine, agriculture, education and public health will attend the formal sessions which begin at 2 p.m. on Thursday, March 4, and continue through Saturday, March 6, winding up with a luncheon meeting at 1 p.m. Problems of nutrition and costs of medical and hospital care and methods of prepayment are the principal subjects to be discussed by outstanding rural health leaders.

In addition, a pre-conference session "for doctors only" will be held Thursday morning. Problems confronting physician-members of state rural health committees will be discussed, such as: (1) physician participation at the grass roots, and (2) health insurance matters.

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PROCEEDINGS

THE MEDICAL SOCIETY OF VIRGINIA

1953 ANNUAL MEETING

Roanoke

October 18, 19, 20 and 21, 1953

COUNCIL

Sunday, October 18, 1953

A special meeting of Council was held on Sunday morning, October 18, at the Hotel Roanoke. The meeting was called for the expressed purpose of considering the budget for the fiscal year 1953-54, as recommended by the Finance Committee. (Detailed budget included in minutes of the first session of the House of Delegates.)

The regular meeting of the Council was called to order at 2:30 p.m. on Sunday, October 18, 1953, at the Hotel Roanoke, after which the roll was called. Those present were Dr. James L. Hamner, President, Dr. Vincent W. Archer, Dr. John T. T. Hundley, Dr. Lewis H. Bosher, Dr. Mack I. Shanholtz, Dr. A. A. Creecy, Dr. Walter P. Adams, Dr. Guy W. Horsley, Dr. Wilkins J. Ozlin, Dr. Louis P. Bailey, Dr. Frank A. Farmer, Dr. Harold W. Miller, Dr. Claude A. Nunnally, Dr. James P. King, and Dr. James W. Love.

Dr. John B. Todd, President, Virginia State Dental Association, was introduced and expressed his regrets in not being able to be present at the meeting of the House of Delegates, but wished the meeting success.

It was reported that an effort has been made to interest the National Park Service in the birthplace of Dr. Walter Reed. Considerable historical data has been furnished the Regional Director of the Service, but no word as to possible action has been received. Prospects are not too optimistic. It was moved that Dr. Creecy, Councilor for the First Congressional District, be authorized to contact the Representative of that District regarding disposition of the matter. The motion passed.

A resolution of the Arlington County Medical Society concerning press releases by its members was next considered. The resolution, which would make it necessary for Arlington Society members to refer such releases to the society's Public Relations Committee for prior approval, had been previously studied by the Ethics Committee of The Medical Society of Virginia and found to contain nothing unethical. However, it was the consensus that the wording of the resolution should be carefully weighed before outright approval was recommended. It was then moved and passed that the action of the Ethics Committee be accepted. A second motion was passed which would refer the resolution to the appropriate committee of the A.M.A. for advice regarding the wording.

Letters from Mr. R. E. Miller, Valdosta, Georgia, concerning the death of his son, the late Dr. Grantland S. Miller, Richlands, were then brought to the attention of Council. It was pointed out that Mr. Miller believed there were certain irregularities connected with his son's death which warranted some action by the Society. Statements from witnesses were read, and it was the consensus that the matter was outside the realm of the Society, and no further action was recommended. It was then moved that a letter, to be approved by the attorney of the Society, be directed to Mr. Miller explaining the Society's position.

Next considered was a resolution approving "The Study of Tuberculosis in Virginia—1952". The pressing need for additional beds was mentioned, and it was brought out that in all probability, the General Assembly will consider certain other needs first, despite the seriousness of the problem. The most urgent communicable disease problem at the moment is an appropriation for 200 additional beds for Negroes, and it was moved that the resolution be amended to include such a recommendation. The motion passed unanimously, and the resolution approved accordingly.

The advisability of the Society forming its own insurance company in view of the increasing rates for professional liability insurance was discussed. It was pointed out that the various commercial companies were having a difficult time breaking even, and it was therefore doubtful if the Society could be successful in such a venture. It was learned that the A.M.A. was studying the problem in detail, and a motion was made that the matter be referred to the appropriate A.M.A. committee for study and recommendation. The motion passed.

Council was next informed of plans for a reception honoring Dr. Walter B. Martin, President-Elect of the A.M.A. The reception will be held in the Ivory Room of the Hotel Jefferson in St. Louis during the A.M.A.'s Interim Session. Those to be invited will include Members of the A.M.A. House of Delegates, Officers of the A.M.A. and its various Councils, and their wives. Cost of the reception was included in the budget.

The matter of honoring past presidents of The Medical Society of Virginia was discussed, and it was agreed that some concrete means should be found to show the Society's appreciation of their efforts. Several suggestions were offered, and it was decided that the Executive Committee should consider and decide on an appropriate certificate.

Mention was made of the fact that some state societies charge a registration fee for non-members during annual meetings. After considerable discussion, it was decided to take no action.

Dr. Archer then reported to Council on a health inventory about to get underway in Orange County. The survey is sponsored by the Virginia Council on Health and Medical Care, which has requested that the Society approve the venture. The survey will determine the health

needs and services of an average Virginia county. It was reported that the Governor has been interested to the point where $2,000 to aid in the survey will be made available from his contingent fund. A motion to approve the survey was passed unanimously.

The Annual PR Conference of the Society, to be held in Richmond on November 24, was brought to the attention of Council, with the recommendation that every effort be made to attend.

Next considered was a resolution by the Alexandria Medical Society suggesting that the Society urge the General Assembly and the Division of Motor Vehicles to arrange for the letters "M.D." to be on the auto license plates of physicians. After considerable discussion, it was moved and passed that the resolution be tabled.

Dr. Horsley suggested that the names of delegates and alternates be printed in future programs of the annual meetings, along with the complete listing of officers.

The necessity of hiring a court reporter to record detailed minutes of the House of Delegates meetings was questioned, and it was suggested that the matter be considered at the next meeting of Council.

There being no further business, the meeting was adjourned.

HOUSE OF DELEGATES
FIRST SESSION
October 18, 1953

The House of Delegates of The Medical Society of Virginia met in the Ballroom of the Hotel Roanoke on October 18, and was called to order at 8:00 p.m. by Dr. James L. Hamner, President.

Dr. Hamner then offered the following report on his term of office: "Members of the House, distinguished guests, I have no speech to make to you, nor do I have any special things to say except that I did want to express a few words in the way of appreciation for your cooperation during this last year. To be elected President of the Medical Society of Virginia is a distinct honor which comes to only a few; for this manifestation of your confidence I am indeed grateful.

"A detailed report of the year's work would be time consuming and dull. I do want to thank each Member of the Society for the fine cooperation and support which has been given me. It has been a real pleasure and a real privilege to serve; although a great honor it has carried with it much responsibility. It is not for me to say that these responsibilities have been well met, but I do know that any degree of success which has been attained has come because of the help and the cooperation of all the people with whom I have been privileged to serve.

"I wish to pay tribute to, and extend my sincere thanks to all those who worked in the home office, and the Officers of the Society, Members of Council, Chairmen and Members of the many Committees. I would like to digress a minute to say that the Committees have done a wonderfully fine job; they have worked willingly, and it has been a real inspiration to see them take hold and do the jobs which have been assigned them.

"The Society has become large. It is necessary that most of the work be done by Committees. Without the fine cooperation of these fine and many Committee members, I know we could not have done what we have been able to do.

"I do want to pay tribute to the Woman's Auxiliary and all of the Members of the Society for being ever willing and ready to serve in every way possible. This has certainly been a great help for which I am gratefully indebted to each Member of the Society. If I may be privileged to ask you further service, it will be that you continue to support Bob Howard and all the fine and kind people in the home office, and give the same type of support to my good friend and distinguished successor Vincent Archer, which you have given me during the past year. I want to thank you for everything and assure you I appreciate it most thoroughly in every way that you have helped me to try to be as fair, or to attain a fair degree of success during this year."

Dr. Hamner then introduced Dr. John T. T. Hundley, Speaker of the House, who called for a report from Dr. Frank Farmer, Chairman of the Credentials Committee. Dr. Farmer reported a quorum was present.

Minutes of the 1952 meeting of the House of Delegates were then approved and passed without discussion.

The speaker then recognized Dr. Walter A. Porter, member of the Finance Committee, who presented the proposed budget for 1953-54 as recommended by Council. The total budget of $70,665.00 was adopted and is listed below.

Budget

EXECUTIVE OFFICE	1953-4
Salaries	$25,030.00
Telephone	1,500.00
Postage	750.00
Stationery & Supplies	750.00
Office Equipment	500.00
Building Maintenance	2,500.00
Building Repair	500.00
State Convention Contingency	500.00
Council Expenses	325.00
Executive Assistant to A.M.A.	400.00
Delegates to A.M.A.	2,000.00
President's Expense	1,000.00
Travel Expense	2,000.00
Virginia Medical Monthly	18,000.00
Scientific Exhibits	2,500.00
Post-Graduate Medical Education Committee	1,000.00
Legislative Committee	1,500.00
Walter Reed Commission	250.00
Cancer Control	400.00
Miscellaneous Health Service Committees	450.00
National Emergency Medical Service	150.00
Woman's Auxiliary	100.00
Affiliated Agencies Dues	85.00
SPECIAL APPROPRIATIONS	
Va. Council on Health and Medical Care	2,000.00
National Society for Medical Research	150.00
Social Security Taxes	375.00
Miscellaneous	500.00

A.M.A. Reception	1,000.00
Secretarial Help for Joint Meeting	1,800.00
Public Relations	
Conference	750.00
Radio and Press	400.00
Literature and Bulletins	1,250.00
Exhibits	250.00
Total	$70,665.00

The afternoon meeting of Council was reported by Mr. Howard, Executive Secretary, and those items referred to the House of Delegates for action were read.

The first item was the following resolution by the Arlington County Medical Society concerning public statements by physicians, with reference to their practice or profession. The resolution had been studied by the Ethics Committee, which found nothing unethical. Council, in accepting the report of the Committee, believed that the resolution should be referred to the A.M.A. Committee on Press Relations for further study and possible recommendation as to rewording.

Whereas, advertising in any form is considered to be contrary to the established ethics of the medical profession, and

Whereas, possible violations to this code of ethics have occurred in this metropolitan area;

Therefore, Be It Resolved that the individual members and/or any group of members of the Arlington County Medical Society who wish to release any information concerning the practice of his or their profession to any news disseminating organization or representative thereof must first make application and have it approved by the Public Relations Committee of the Arlington County Medical Society. Failure to comply with this regulation will make that individual or group of individuals subject to the action of the Board of Censors of said society. The Board of Censors upon application of any member of the society shall examine all unapproved news releases and report same to the Arlington County Medical Society at its next regularly scheduled meeting after such application is made and shall recommend to the society suitable action.

The second item was the following Resolution On "The Study of Tuberculosis in Virginia—1952", which was recommended for approval:

Whereas, The Study of Tuberculosis in Virginia—1952, recently conducted by the Virginia State Department of Health and the Virginia Tuberculosis Association, states:

1. Tuberculosis is Virginia's most important communicable disease problem.
2. *Now* is the time for an all-out effort to eliminate the disease in Virginia; and

Whereas, The Study of Tuberculosis in Virginia—1952 presents convincing evidence to support the above statements and has been conducted by a thoroughly competent technical staff, and

Whereas, The day to day experience of practicing physicians in Virginia offers additional convincing evidence for the critical nature of tuberculosis control problems in Virginia; and

Whereas, The family physician and internist, more than ever before, will be the keystone in the Commonwealth's tuberculosis control program; and

Whereas, The Medical Society of Virginia, in convention assembled, has the responsibility of giving leadership to the medical profession and to citizens of the Commonwealth in general;

Be It Resolved: That (A) The Medical Society of Virginia accept the "Study of Tuberculosis in Virginia—1952" as a reasonable and fair appraisal of the tuberculosis situation in the Commonwealth.

That (B) The Medical Society of Virginia endorse the recommendations made therein as worthwhile suggestions to which serious consideration should be given by those charged with formulation of a tuberculosis control program for the State.

That (C) The Medical Society of Virginia specifically approves (1) the construction of additional beds, with particular reference to an appropriation by the General Assembly at its next meeting for money for construction of 200 additional beds for Negroes to meet an obvious and most urgent communicable disease problem, (2) the recommendation for establishment of Regional Chest Clinics at strategic locations throughout the State.

That (D) A copy of this resolution, with appropriate covering letters, be sent to Governor John S. Battle, and to aspirants for the office of Governor or for a seat in the General Assembly.

That (E) Individual members of The Medical Society of Virginia do their utmost to acquaint individuals and groups in their own communities with tuberculosis control needs in the Commonwealth, urging these individuals and groups to demand effective corrective action by their elected officials, or promises of such action by aspirants for public office.

Council also recommended the endorsement of a Health Inventory Education Survey soon to begin in Orange County.

The fourth item considered was the following resolution of the Alexandria Medical Society. Council recommended that no action be taken.

The Alexandria Medical Society wishes to suggest to the Medical Society of Virginia that it recommend to the General Assembly and the Commissioner of Motor Vehicles that physicians and surgeons of this state be privileged to bear stamped on their motor vehicle license plates the letters "M.D."

A precedent has been set in this state in that amateur radio operators have their call letters on their license plates in lieu of the customary plates.

The above has been permitted in recognition of the part these men may play in emergency or disaster. The role of physicians and surgeons in every day emergencies as well as possible disasters is well known and should be given the same consideration as others.

It was then moved and passed that the report of Council be adopted.

Dr. Hundley introduced Dr. Walter B. Martin, President-Elect of the American Medical Association, who spoke briefly to the House on matters currently under study by the A.M.A.

Mrs. Thomas N. Hunnicutt, President, and Mrs. K. W. Howard, President-Elect of the Woman's Auxiliary to The Medical Society of Virginia, were then introduced.

Delegates to special meetings were then recognized: Dr. Wilkins J. Ozlin, delegate to the Medical Society of the State of North Carolina, Dr. Linwood Ball and Dr. Harvey Haag, delegates to the Virginia Pharmaceutical Association, Dr. Charles L. Outland, delegate to the National Conference on Physicians and Schools, and Dr. John O. Boyd, Jr., delegate to the Conference on Federal Medical Services.

Dr. Hundley introduced the following visiting delegates to the annual meeting: Mr. C. E. Webber and Mr. Charles E. Green, Jr., of the Virginia Pharmaceutical Association, and Miss Hazel Knibb, of the Graduate Nurses Association of Virginia.

A recess was then taken for the purpose of allowing the delegates of the various districts to select members of the Nominating Committee. The members of the Committee were Dr. W. A. Read, First District; Dr. George A. Duncan, Second District; Dr. Charles L. Outland, Third District; Dr. L. H. Bracey, Fourth District; Dr. J. D. Hagood, Fifth District; Dr. John E. Gardner, Sixth District; Dr. Guy W. Fisher, Seventh District; Dr. D. W. Scott, Eighth District; Dr. Rufus Brittain, Ninth District; and Dr. Ben C. Jones, Tenth District. A meeting time was announced, and business resumed.

Consideration was next given three committee reports published in the Virginia Medical Monthly and any supplemental reports ready for presentation.

An amendment to the report of the Virginia Committee of the American Medical Education Foundation was moved and passed which would have each component society appoint a committee to canvass its membership for individual contributions.

The reports were then refered to the Reference Committee.

Dr. Hundley then called for new business, and the resolutions introduced by the following delegates were referred to the Reference Committee.*

Dr. Walter B. Martin and Dr. John O. Boyd, Jr.,—resolution by which Society endorses the A.M.A. resolution of June 1953 relative to veterans' medical care. Pledges support of the A.M.A. program.

Dr. William L. Powell—resolution recommending that the State Legislature augment the present inadequate federal aid for proposed urgently needed hospitals.

Dr. W. H. Whitmore—resolution requesting insurance companies to change policies so that fees for examination of out-patients be paid not only to hospital departments but to duly qualified physicians doing examinations outside of hospitals.

Dr. Whitmore—resolution to approve the principle that exploitation of any physician by any group, etc., for financial profit is wrong and unethical. Also stated that exploitation of any hospital or any patient by any physician is wrong and unethical.

Dr. H. C. Bates—resolution to approve educational program of the A.A.P.S.

Dr. L. H. Bracey—resolution that the Society contribute to the American Medical Education Foundation.

Dr. H. J. Langston—resolution by which a committee would study the advisability of birth control clinics, the matter of pregnancies in children, pregnancies in women who have more children than they can support, and the advisability of sterilization of both male and female seeking the service voluntarily.

Dr. Russell V. Buxton—resolution by which the Society would assist the State Board of Nurse Examiners in obtaining 50 additional scholarships for student nurses through State Legislature.

Dr. O. W. Ward—resolution by which qualified nurses would be permitted to start intravenous infusions on doctor's orders.

The matter of reserving a bloc of rooms in the headquarters hotel for officers, guests, and Members of the House of Delegates was brought up, and it was moved and seconded that no rooms be set aside especially for Members of the House. The motion was lost.

There being no further business, the meeting was declared adjourned until Tuesday, October 20, at 4:00 p.m.

SECOND SESSION

October 20, 1953

The second session of the House of Delegates of The Medical Society of Virginia was called to order by Dr. James L. Hamner, President, at 4:00 p.m., Tuesday, October 20, in the Pine Room of the Hotel Roanoke.

Dr. Hamner turned the meeting over to the Speaker, Dr. John T. T. Hundley, who requested a report from Dr. Frank Farmer, Chairman of the Credentials Committee. It was established that a quorum was present.

The report of the Reference Committee was considered first. The Committee recommended the acceptance and adoption of the report of the Executive Secretary-Treasurer, and the report of the Delegates to the A.M.A.

The following resolution was then adopted upon the recommendation of the Reference Committee:

Recommended that The Medical Society of Virginia assist the State Board of Nurse Examiners in obtaining fifty additional scholarships for student nurses through the State Legislature, provided that the students agree to serve in needed communities for a specified length of time, or reimburse the State.

The following resolution was then read and passed after some discussion:

WHEREAS, the Virginia Society of Ophthalmology and Otolaryngology has approved and endorsed and recommended for passage by the General Assembly of Virginia a bill to regulate the practice of Opticianry, copy of which is hereto attached, and

WHEREAS, the said Society has indicated its desire that

*Text of resolutions included in minutes of 2nd Session, House of Delegates.

The Medical Society of Virginia take similar action on said bill, now

Therefore, Be It Resolved, that The Medical Society of Virginia does hereby endorse, approve and recommend for passage by the General Assembly of Virginia the attached bill to regulate and license the practice of Opticianry, subject to such amendments as may appear appropriate.

It was then recommended that the reports of the Ethics, Judicial, Finance, and Membership Committees be approved.

The following resolution from the Committee on Post-Graduate Education was then approved:

Move that the Virginia Division of the American Cancer Society be thanked for their assistance and support of the program for post-graduate cancer education,

That similar expressions of appreciation be extended to the Extension Division of the University of Virginia for arranging the itinerary and scheduling the courses, and

That the money collected from the physicians who participated be returned to the Virginia Division of the American Cancer Society for the furtherance of post-graduate education in cancer, and

That appropriate letters of appreciation be sent to the Virginia Division of the American Cancer Society, the Extension Division of the University of Virginia, and to Dr. R. R. Spencer, who gave the courses.

Approval was recommended for the reports of the Grievance and Public Relations Committees.

The following three items in the supplemental report of the Committee on Medical Service were read in order that proper emphasis could be given them, after which the report was adopted:

Recommended that each component society appoint a special committee on Federal Medical Services to handle all affairs concerned in this field,

That a special committee on Federal Medical Services of The Medical Society of Virginia be appointed to serve for such period of time as this program occupies the interest of the A.M.A. and of The Medical Society of Virginia, and

That the Medical Service Committee be instructed to continue its efforts to arrive at an acceptable state-wide fee schedule and to perfect plans relative to its use in the event that such a schedule is effected.

Upon the recommendation of the Reference Committee, the following resolution was adopted:

Whereas, the number of veterans is constantly increasing, and

Whereas, the medical care program for these veterans will result in ever increasing expansion of federal medical programs, and

Whereas, such expansion of federal medical programs present a serious threat to medical progress which our country has enjoyed under our free enterprise system since its foundation,

Therefore, Be It Resolved, that The Medical Society of Virginia at its 1953 meeting does unreservedly endorse the resolution adopted by the A.M.A. in June 1953 relative to Veterans Medical Care, and pledges its support of the program being undertaken by the A.M.A. to attain this end.

The following resolution was then read with the recommendation that it be referred to the Maternal Health Committee for study and a subsequent report to the House. The recommendation was approved.

That the President of The Medical Society of Virginia appoint a committee to study the following propositions:

1. Birth control clinics, both private and public, conducted by physicians.
2. Pregnancies in children, who in many instances should not be allowed to go to term.
3. Pregnancies in women who already have more children than they can now feed and cloth.
4. Sterilization of both male and female who seek this service voluntarily.

With regard to the report of the Committee on Venereal Disease, it was recommended that the Committee work with the State Health Department, the Clinical Pathological Society, and the heads of appropriate departments of the two medical schools to determine the feasibility, decide on the merit, and determine further steps for utilization of the specific test for syphilis (T.P.I.). This action was approved.

The following two resolutions were then read with the committee's recommendation that the sum of $2,000 be contributed to the Foundation and that every effort be made to obtain individual contributions over the state:

Resolved that The Medical Society of Virginia request that each local county medical society appoint a committee for the purpose of canvassing the entire membership to obtain as large as possible contribution for the purpose of medical education.

Resolved that The Medical Society of Virginia make a contribution to the American Medical Education Foundation.

A supplemental report of the Liaison Committee to the U.M.W. Welfare and Retirement Fund, which follows, was read and adopted.

The Liaison Committee to meet with the U.M.W. Welfare and Retirement Fund and the appropriate A.M.A. agencies met in Charleston, West Virginia, on September 12-13. Present were Dr. James L. Hamner, Dr. John O. Boyd, Dr. Mack I. Shanholtz, Dr. James P. Williams, Dr. Rufus Brittain, Dr. Mary Elizabeth Johnston, Dr. John T. T. Hundley, and Robert I. Howard.

In recognition of the real need for improved medical services in the coal mining areas, and in appreciation of the desire of the U.M.W. Welfare and Retirement Fund officials, the Liaison Committee of The Medical Society of Virginia recommends to the House of Delegates as follows:

1. That every effort be made to extend post-graduate education to the practicing physicians of the mine areas.
2. That strenuous efforts be made to encourage physicians to locate in those areas for practice.
3. That, in cooperation with other interested agencies, efforts be made to improve available hospital facilities.
4. That The Medical Society of Virginia extend its advice and assistance to mining communities in the establishment of community health centers to serve the health needs of the local communities.
5. That organized medicine in Virginia cooperate with the U.M.W. Welfare and Retirement Fund to set up practical working standards for community participation in the operation of the new Memorial Hospitals, in accordance with and within the framework of approved practices as set up by official accrediting agencies.
6. That The Medical Society of Virginia make every effort to correct the causes leading to and the suspicion and distrust which exist between the U.M.W.A. and the medical profession in the mining areas, in full recognition of the mutual objective of better health and medical care for the mining population.

The following portion of the report of the Committee to Assist the American Diabetes Association was emphasized and approved:

The Society of general practitioners in Richmond have agreed to examine, free of charge, the urine of any person which is brought to the doctor's office during the week of the drive in November. The Richmond Academy of Medicine has agreed to this also. This committee suggests that The Medical Society of Virginia, as a whole, make such an offer to the public and requests that the delegates approve this at the October meeting.

Upon the recommendation of the Reference Committee, the following resolution was referred to the Committee to Confer with the State Board of Nurse Examiners, with the request that a report be made to Council at its next session.

Resolve that properly qualified nurses be permitted to start intravenous infusions on doctors' oral or written orders, and that to do so does not constitute the practice of medicine (as has apparently been held by judicial cases in the past 12 months).

The Speaker, as directed by the Reference Committee, urged the Delegates to make every effort to have component societies bring all eligible physicians into The Medical Society of Virginia and the American Medical Association. It was noted that few component societies are actually sending the State Office their membership rosters by July 15 of each year, as required in Article III, Section 9, of the By-Laws.

The following resolution was then read:

WHEREAS, the Association of American Physicians and Surgeons has for several years supplemented the efforts of the American Medical Association in its fight against socialized medicine by its close scrutiny of new legislation concerning socialized medicine and has placed such information before its members, and

WHEREAS, it is carrying on an annual campaign to educate the students in public and private high schools on the value of the private practice of medicine, and

WHEREAS, the Association of American Physicians and Surgeons has no intent to interfere with or supplant in any way the American Medical Association, and

WHEREAS, eighteen state medical societies have already seen fit to endorse the program of the Association of American Physicians and Surgeons,

BE IT HEREBY RESOLVED THAT The Medical Society of Virginia endorse and approve the program of the Association of American Physicians and Surgeons.

It was the recommendation of the Reference Committee that the Society approve the educational program of the A.A.P.S. provided their educational material has been cleared by the A.M.A. A motion to approve the action of the Committee was carried.

The following resolution was approved:

WHEREAS, certain insurance companies issue medical care policies which provide payment for electrocardiograms, laboratory examinations, and X-ray examinations for non-hospitalized out-patient cases, payable only to hospitals, and

WHEREAS, such provisions encourage and further the practice of medicine by hospitals, and

WHEREAS, such provisions do not allow the patient a free choice of physicians for such examinations, and

WHEREAS, such provisions in insurance policies result in unfair competition and discrimination against those physicians doing special examinations outside of hospitals,

BE IT RESOLVED THAT (a) The Medical Society of Virginia requests that the insurance companies concerned change their policies so that fees allowed for examination of out-patients be paid not only to hospital departments, but to duly qualified physicians doing such examinations outside of hospitals; and

(b) That in all cases, payments for such services be made directly to the physician making the examination; and

(c) That a copy of this resolution be sent to the following: (1) The Executive Secretary of the American Medical Association, (2) The Insurance Commission of Virginia, and (3) The Health Insurance Council.

Upon the recommendation of the Reference Committee, the next resolution was approved:

WHEREAS, certain hospitals employ physicians in several specialist classes to provide medical services for hospital patients and out-patients, and

WHEREAS, in some cases these physicians are employed on terms that result in a profit for the hospital over and above a fair return on investments in equipment and overhead costs for space, personnel and supplies, and

WHEREAS, such practices result in a part of the fees that the patient pays for specialist services going for other hospital purposes, a situation similar to fee splitting between individuals, and

WHEREAS, "The Principles of Medical Ethics of the American Medical Association", accepted by this society, include this provision, Article VI, Section 6—"A physician should not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, under terms or conditions which permit exploitation of the services for the financial profit of the agency concerned." and

WHEREAS, it is for the best interest of the patient that the fees paid for professional services should be strictly for such professional services and not partly for hospital expense,

THEREFORE, BE IT RESOLVED (a) that The Medical Society of Virginia approves the principle that exploitation of any physician by any group, organization or individual, for financial profit is wrong and unethical;

(b) That, also, the exploitation of any hospital or any patient, by any physician is wrong and unethical;

(c) That all members of this society are urged to do their utmost to correct unethical situations in medical practice, both by their influence on organizations or individuals involved, and by their own personal example of ethical conduct.

Presented next was the following resolution pertaining to the need of additional State funds to augment inadequate Hill-Burton funds for hospital construction in Virginia:

To His Excellency, The Governor of Virginia—The Honorable John S. Battle

WHEREAS, the Virginia Hospital Advisory Council has approved the requests of nine hospitals situated in seven Virginia communities for Federal funds under the provision of the Hill-Burton Act, and

WHEREAS, the anticipated Federal funds allocated to hospitals in Virginia during the next three years will total only thirty-three (33) per cent of the estimated cost of these institutions, and

WHEREAS, the campaigns to raise funds for these institutions and the plans formulated in terms of the needs in each community were based on the assumption that fifty-five (55) per cent of the cost would be obtained from Federal and State sources as had been true in the past, and

WHEREAS, failure to obtain the full anticipated amount will seriously curtail or actually prevent the erection of these badly needed hospitals with resulting hazards to the health of citizens of this Commonwealth,

THEREFORE, BE IT RESOLVED THAT His Excellency, The Governor of Virginia, and State Legislators be respectfully requested and urged to recommend that the present

inadequate Federal aid be augmented by funds from the Commonwealth of Virginia, as has been done in the past, at the next meeting of the Legislature to be held in January 1954, in order that the proposed urgently needed hospitals may be erected as originally planned at the earliest possible moment.

It was moved and passed that the resolution be adopted.

The Speaker next reported the recommendation of the Reference Committee concerning an A.M.A. request that Delegates to the A.M.A. be instructed as to the matter of extending to the osteopaths the facilities of consultation with members of the medical profession. The Committee had recommended that the Delegates to the A.M.A. go uninstructed and act as they see fit in view of circumstances, materials, and arguments presented. A motion to approve the action of the Reference Committee was passed.

This concluded the report of action by the Reference Committee. It was noted that committee reports had been voted on during the first session of the House of Delegates, and where no changes had occurred, it had not been considered necessary to have another formal vote during the second session.

Dr. Guy W. Fisher, Chairman of the Nominations Committee, was recognized and submitted the following nominations:

President-Elect: Dr. Carrington Williams, Richmond
1st Vice-President: Dr. David S. Garner, Roanoke
2nd Vice-President: Dr. Frank E. Tappan, Berryville
3rd Vice-President: Dr. A. Tyree Finch, Farmville
Councilors:
1st District: Dr. A. A. Creecy, Newport News
3rd District: Dr. Guy W. Horsley, Richmond
5th District: Dr. Louis P. Bailey, Nathalie
7th District: Dr. Harold W. Miller, Woodstock
9th District: Dr. James P. King, Radford
Executive Secretary-Treasurer: Robert I. Howard

It was moved and seconded that the nominations be adopted. The motion carried unanimously.

The next order of business was the election of the Speaker of the House of Delegates, and Dr. John T. T. Hundley was reelected.

Nominations were then announced for appointment to the State Board of Medical Examiners from the Fifth Congressional District. They were Dr. S. C. Hall, Danville; Dr. W. N. Thompson, Stuart; and Dr. Walter A. Porter, Hillsville. It was moved and passed that the nominations be approved.

Election of a delegate to the American Medical Association was next considered. This was necessary since the term of Dr. Vincent W. Archer expires December 31. Elected as delegate was Dr. J. Morrison Hutcheson. Dr. Archer was chosen as alternate.

The election of Dr. Hutcheson as delegate made it necessary to elect an alternate for Dr. Carrington Williams, since Dr. Hutcheson had held that office. Dr. Kinloch Nelson was elected.

The Speaker called for nominations of the General Practitioner of the Year. Dr. Rufus Brittain, representing the Virginia Academy of General Practice, placed in nomination the names of Dr. Thomas K. McKee, Saltville, and Dr. Brewster Arthur Hopkins, Stuart. There were no further nominations. Dr. Hundley read the results of the ballots, and declared Dr. Thomas K. McKee to be General Practitioner of the Year in Virginia.

It was then noted that for the first time in many years, Miss Agnes Edwards, Managing Editor of the Virginia Medical Monthly, was not attending the annual meeting. It was moved and seconded that a telegram be sent Miss Edwards expressing the fact that she was missed. The motion carried unanimously.

A resolution was presented commending the Roanoke Academy of Medicine, the Local Committee on Arrangements, Dr. David S. Garner, and the staff of the Hotel Roanoke for their excellent work in connection with the annual meeting, and expressing the appreciation of the Society. The resolution was adopted by unanimous vote.

Announcement was made of the time and place for the 1954 annual meeting. The meeting will be a joint affair with the District of Columbia Medical Society and will take place at Washington's Hotel Shoreham, from October 31-November 3.

With reference to the 1955 meeting, it was moved that the decision be left to the Executive Committee and Council. The motion carried.

There being no further business, the House of Delegates adjourned.

Robert I. Howard, *Executive Secretary*

Approved:
James L. Hamner, M.D., *President*
November 12, 1953

FIFTY YEAR CLUB AWARDS

An especially pleasant feature of the first General Session was the awarding of certificates to the new members of the Fifty Year Club. Certificates carrying Life Membership were given those who graduated fifty years ago. The awards were made Monday evening, October 19, by the President, Dr. J. L. Hamner, to

Dr. Joseph LeCenne DeCormis, Accomac
Dr. Courtney Edmond, Clifton Forge
Dr. William Wallace Gill, Richmond
Dr. William H. Howard, Portsmouth
Dr. Louis Knight Leake, Goochland
Dr. William Cline Moomaw, Bedford
Dr. Lawson Otwood Powell, Roanoke
Dr. Marvin Pierce Rucker, Richmond
Dr. John Bonney Shipp, Norfolk
Dr. Benjamin Clinton Shuler, Shenandoah
Dr. Homer Amos Spitler, Middleburg
Dr. Harry Benjamin Stone, Roanoke
Dr. William Joshua Sturgis, Nassawadox
Dr. Charles Walter Thomas, Floyd
Dr. Edward Victor Valz, Philadelphia, Pa.
Dr. Cary Elphus Via, Norfolk
Dr. A. McGarvey Wallace, Gate City
Dr. Elbert Patton Whited, Honaker

COMMITTEES

The following Committees have been named to be in charge of the various activities of the Society during

the year 1953-1954. Numbers after names in STANDING COMMITTEES indicate number of years to serve, these having been appointed for a definite term in accordance with the By-Laws.

Standing Committees

PUBLICATION: *M. Pierce Rucker, M.D., (1), *Chairman,* Richmond, Lewis H. Bosher, Jr., M.D., (1), Richmond, Wyndham B. Blanton, M.D., (2), Richmond, Lloyd B. Burk, Jr., M.D., (3), Arlington.

POSTGRADUATE MEDICAL EDUCATION: James L. Hamner, M.D., *Chairman,* Mannboro, John T. T. Hundley, M.D., Lynchburg, Mack I. Shanholtz, M.D., Richmond, Kinloch Nelson, M.D., Richmond, William Parson, M.D., Charlottesville, C. V. Cimmino, M.D., Fredericksburg.

ETHICS: Malcolm H. Harris, M.D., (1), *Chairman,* West Point, H. S. Daniel, M.D., (2) Louisa, H. H. Hurt, M.D., (3), Lynchburg.

GRIEVANCE: W. C. Caudill, M.D., (2), *Chairman,* Pearisburg, C. L. Harrell, M.D., (3), Norfolk, John T. T. Hundley, M.D., (4), Lynchburg, James L. Hamner, M.D., (5), Mannboro, Guy R. Fisher, M.D., (1), Staunton.

JUDICIAL: J. Morrison Hutcheson, M.D., (3), *Chairman,* Richmond, Richard P. Bell, Jr., M.D., (1), Staunton, J. D. Zylman, M.D., (2), Falls Church.

LEGISLATIVE: J. D. Hagood, M.D., (3), *Chairman,* Clover, W. C. Caudill, M.D., (3), Pearisburg, Dean B. Cole, M.D., (3), Richmond, Carrington Williams, Sr., M.D., (1), Richmond, J. Edwin Wood, Jr., M.D., (2), Charlottesville, Frank A. Farmer, M.D., (2), Roanoke, M. S. Fitchett, M.D., (1), Norfolk, Walter P. Adams, M.D., (1), Norfolk, W. C. Elliott, M.D., (2), Lebanon.

MEDICAL SERVICE: H. B. Mulholland, M.D., (2), *Chairman,* Charlottesville, Frank A. Farmer, M.D., (2), Roanoke, James P. Williams, M.D., (2), Richlands, T. B. McCord, M.D., (1), Fairfax, H. M. Frieden, M.D., (1), Norfolk, John G. Graziani, M.D., (1), Farmville, Charles L. Savage, M.D., (1), Waynesboro, Snowden C. Hall, Jr., M.D., (1), Danville, Russell V. Buxton, M.D., (2), Newport News, Kinloch Nelson, M.D., (2), Richmond.

MEMBERSHIP: George W. Leavell, M.D., (1), Bristol, James A. Thweatt, M.D., (2), Petersburg, Henry J. Langston, M.D., (3), Danville.

PUBLIC RELATIONS: James P. King, M.D., (1), *Chairman,* Radford, Benjamin W. Rawles, Jr., M.D., (1), Richmond, John W. Davis, M.D., (3), Lynchburg, Mason C. Andrews, M.D., (3), Norfolk, H. C. Bates, Jr., M.D., (2), Arlington, Fred D. Maphis, M.D., (2), Strasburg.

SCIENTIFIC EXHIBITS AND CLINICS: Hunter B. Frischkorn, Jr., M.D., (1), *Chairman,* Richmond, Allen Barker, M.D., (2), Roanoke, Alvin C. Wyman, M.D., (3), Alexandria.

PROGRAM: Benjamin W. Rawles, Jr., M.D., (1), *Chairman,* Richmond, Ira L. Hancock, Jr., M.D., (2), Creeds, A. A. Creecy, M.D., (3), Newport News.

FINANCE: Harry J. Warthen, Jr., M.D., (1), *Chairman,* Richmond, Walter A. Porter, M.D., (3), Hillsville, Fletcher J. Wright, Jr., M.D., (2), Petersburg, Carrington Williams, M.D., ex-officio, Richmond.

*Since deceased.

Special Committees

CHILD HEALTH: Edwin A. Harper, M.D., *Chairman,* Lynchburg; McLemore Birdsong, M.D., Charlottesville; William E. Chapin, M.D., Richmond; Paul Hogg, M.D., Newport News; Edwin L. Kendig, M.D., Richmond; John O. Rydeen, M.D., Norfolk; John T. Walke, M.D., Roanoke.

ADVISORY TO WOMAN'S AUXILIARY: M. S. Andrews, M.D., *Chairman,* Norfolk; Waverly R. Payne, M.D., Newport News; Donald S. Daniel, M.D., Richmond.

WALTER REED COMMISSION: H. A. Tahb, M.D., *Chairman,* Gloucester; Richard B. Bowles, M.D., Mathews; Clarence P. Jones, M.D., Newport News.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS: C. Bruce Morton, III, M.D., *Chairman,* Charlottesville; Russell V. Buxton, M.D., Newport News; John A. Shackelford, M.D., Martinsville; Eugene L. Lowenberg, M.D., Norfolk; Frank Johns, M.D., Richmond; Malcolm H. Harris, M.D., West Point; James M. Habel, M.D., Suffolk.

VENEREAL DISEASE CONTROL: James W. Love, M.D., *Chairman,* Alexandria; Harry Pariser, M.D., Norfolk; William H. Kaufman, M.D., Roanoke; W. Ross Southward, Jr., M.D., Richmond; Allen W. Pepple, M.D., Richmond.

TUBERCULOSIS: Everett C. Drash, M.D., *Chairman,* Charlottesville; George A. Welchons, M.D., Richmond; Wilkins J. Ozlin, M.D., South Hill; Carl W. LaFratta, M.D., Richmond; Charles W. Scott, M.D., Burkeville; Frank B. Stafford, M.D., Charlottesville.

MENTAL HYGIENE: Rex Blankinship, M.D., *Chairman,* Richmond; David C. Wilson, M.D., Charlottesville; James K. Morrow, M.D., Radford; John R. Saunders, M.D., Richmond; C. T. Wilfong, M.D., Richmond; Joseph R. Blalock, M.D., Marion; Edwin J. Palmer, M.D., Roanoke; Thomas Spessard, M.D., Norfolk; John P. Williams, M.D., Richmond; John A. Simms, M.D., Alexandria; Snowden C. Hall, Jr., M.D., Danville; Thomas S. Edwards, M.D., Charlottesville; Thomas H. Anderson, M.D., Lawrenceville; Alexander G. Brown, III, M.D., Richmond; John B. McKee, M.D., Winchester; W. S. Hooten, M.D., Lynchburg; Landon E. Stubbs, M.D., Newport News.

CANCER: George Cooper, Jr., M.D., *Chairman,* Charlottesville; Arthur B. Gathright, M.D., Richmond; A. P. Jones, M.D., Roanoke; Joseph W. Houck, M.D., Lynchburg; Mason Romaine, M.D., Petersburg; Nelson Smith, M.D., Petersburg; John J. Giesen, M.D., Radford; Martin L. Dreyfuss, M.D., Clifton Forge; Charles H. Peterson, M.D., Roanoke; John R. Kight, M.D., Norfolk; A. C. Wyman, M.D., Alexandria; Frank D. Daniel, M.D., Charlottesville; George Zur Williams, M.D., Richmond.

REHABILITATION: Roy M. Hoover, M.D., *Chairman,* Roanoke; Reno R. Porter, M.D., Richmond; George A. Duncan, M.D., Norfolk; J. R. Blalock, M.D., Marion; Edward E. Haddock, M.D., Richmond; Leroy Smith, M.D., Richmond; Frank B. Stafford, M.D., Charlottesville; A. L. Carson, Jr., M.D., Richmond; W. E. Dickerson, M.D., Danville; G. S. Fitz-Hugh, M.D., Charlottesville;

Fletcher J. Wright, Jr., M.D., Petersburg; Charles L. Savage, M.D., Waynesboro.

Cerebral Palsy: O. Anderson Engh, M.D., *Chairman,* Alexandria; John A. Vann, M.D., Norfolk; Walter O. Klingman, M.D., Charlottesville; Louise F. Galvin, M.D., Richmond; Roy M. Hoover, M.D., Roanoke.

Advisory Heart: R. Earle Glendy, M.D., *Chairman,* Roanoke; J. Edwin Wood, Jr., M.D., Charlottesville; Paul D. Camp, M.D., Richmond; R. B. Grinnan, M.D., Norfolk; John B. McKee, M.D., Winchester; J. Franklin Waddill, M.D., Norfolk; Julian Q. Early, M.D., Bristol.

Conservation of Hearing: Francis McGovern, M.D., *Chairman,* Danville; P. N. Pastore, M.D., Richmond; Neil Callahan, M.D., Norfolk; James Gorman, M.D., Lynchburg; Fred Hamlin, M.D., Roanoke; Grant Preston, M.D., Harrisonburg; Fletcher Woodward, M.D., Charlottesville; J. H. Hopkins, M.D., Petersburg.

House: Harry J. Warthen, Jr., M.D., *Chairman,* Richmond; Donald S. Daniel, M.D., Richmond; Fletcher J. Wright, Jr., M.D., Petersburg.

Polio: Lee E. Sutton, Jr., *Chairman,* Richmond; R. B. Bowles, M.D., Mathews; E. A. Harper, M.D., Lynchburg; Robert C. Hood, M.D., Arlington; Roy M. Hoover, M.D., Roanoke; McLemore Birdsong, M.D., Charlottesville.

Conservation of Sight: Rudolph C. Thomason, M.D., *Chairman,* Richmond; Parker H. Lee, Jr., M.D., Lynchburg; William F. Hatcher, M.D., Roanoke; F. O. Fay, M.D., Norfolk; Meade C. Edmunds, M.D., Petersburg.

Liaison Committee to Confer with U. M. W. Welfare Fund: John T. T. Hundley, M.D., *Chairman,* Lynchburg; Kinloch Nelson, M.D., Richmond; Mack I. Shanholtz, M.D., Richmond; John O. Boyd, Jr., M.D., Roanoke; James P. Williams, M.D., Richlands; Rufus P. Brittain, M.D., Tazewell; H. B. Mulholland, M.D., Charlottesville.

To Assist American Diabetes Association: William R. Jordan, M.D., *Chairman,* Richmond; Robert C. Crawford, M.D., Roanoke; W. Callier Salley, M.D., Norfolk; James G. Willis, M.D., Fredericksburg.

National Emergency Medical Service: W. Ross Southward, Jr., M.D., *Chairman,* Richmond; Fletcher J. Wright, Jr., M.D., Petersburg; Walter P. Adams, M.D., Norfolk; E. C. Drash, M.D., Charlottesville; R. P. Bell, Jr., M.D., Staunton; C. V. Amole, M.D., Alexandria; J. M. Hurt, M.D., Blackstone; Frank A. Farmer, M.D., Roanoke; Russell V. Buxton, M.D., Newport News; Kinloch Nelson, M.D., Richmond; Henry Bourne, M.D., Danville; Guy Richardson, M.D., Bristol; Mack I. Shanholtz, M.D., Richmond; James L. Hamner, M.D., Mannboro.

American Medical Education Foundation: Marcellus A. Johnson, Jr., M.D., *Chairman,* Lewis Gale Hospital, Roanoke; Harry C. Bates, Jr., M.D., Arlington; L. H. Bracey, M.D., South Hill; Malcolm H. Harris, M.D., West Point; F. D. Maphis, M.D., Strasburg; John R. Mapp, M.D., Nassawadox; Walter McMann, M.D., Danville; Richard C. Potter, M.D., Marion; T. S. Edwards, M.D., Charlottesville; James L. Chitwood, M.D., Pulaski; Lyddane Miller, M.D., Amherst; John H. Dellinger, M.D., Norton; Carrington Williams, M.D., Richmond.

Executive Committee of Council: Guy W. Horsley, M.D., *Chairman,* Richmond; Walter P. Adams, M.D., Norfolk; James L. Hamner, M.D., Mannboro.

Maternal Health: H. H. Ware, Jr., M.D., *Chairman,* Richmond; L. L. Shamburger, M.D., Richmond; E. S. Groseclose, M.D., Lynchburg; A. Tyree Finch, M.D., Farmville; George S. Hurt, M.D., Roanoke; John R. Kight, M.D., Norfolk; Garrett Dalton, M.D., Radford; W. L. McMann, M.D., Danville; Edwin Rucker, M.D., Richmond; W. N. Thornton, M.D., Charlottesville.

Federal Medical Services: Charles M. Caravati, M.D., *Chairman,* Richmond; John O. Boyd, Jr., M.D., Roanoke; W. L. Nalls, M.D., Alexandria; E. C. Drash, M.D., Charlottesville.

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Committee to Confer with Old Dominion Medical Society: James L. Hamner, M.D., *Chairman,* Mannboro; Walter P. Adams, M.D., Norfolk; Harry C. Bates, M.D., Arlington; Guy W. Horsley, M.D., Richmond; Frank A. Farmer, M.D., Roanoke.

IN MEMORIAM

Members of the Medical Society of Virginia Whose Deaths Have Been Reported Since 1952 Meeting

Dr. Lee Scott Barksdale, Hopewell
Dr. Forrest McLean Bennett, Richmond
Dr. James Gordon Boisseau, Richmond
Dr. John Otto Boyd, Roanoke
Dr. Alexander Gustavus Brown, Jr., Richmond
Dr. John Bunyan Bullard, Richmond
Dr. Birnie Roscoe Caldwell, Craig Healing Springs
Dr. Robert Dennis Caldwell, Lynchburg
Dr. Franklin Harry Cohen, Norfolk
Dr. Claude C. Coleman, Richmond
Dr. Robert Page Cooke, Lexington
Dr. Robert Lawrence Corbell, Portsmouth
Dr. John Gibson Davis, Roanoke
Dr. A. Henry Dunn, Riverside, California
Dr. St. George Tucker Grinnan, Richmond
Dr. Walter Paul Hammer, Falls Church
Dr. William Cloud Harman, Dolphin
Dr. Alvah Livingston Herring, Richmond
Dr. Gilmer Gustave Holland, Holland
Dr. Robert W. Holley, Appalachia
Dr. Leonidas Leroy Jones, Portsmouth
Dr. Linwood Dickens Keyser, Roanoke
Dr. Harry Buyer LaFavre, Virginia Beach
Dr. Edgar L. Lawrence, Roanoke
Dr. S. Eugene Massey, New Smyrna Beach, Florida
Dr. Richard Mason, The Plains

Dr. George Madison Maxwell, Roanoke
Dr. Benjamin Crumpacker Moomaw, Roanoke
Dr. George Thomas Myers, Norfolk
Dr. John Edward Payne, Arlington
Dr. William Alfred Pinkerton, North Garden
Dr. Oscar Lee Ramsey, Gretna
Dr. Paul Rawiszer, Hixson, Tennessee
Dr. James Washington Reed, Norfolk
Dr. William W. Robertson, Danville
Dr. Richard Ovid Rogers, Bluefield, West Virginia
Dr. Lawrence Thomas Royster, University
Dr. Albert George Schnurman, Roanoke
Dr. James Henderson Smith, Richmond
Dr. Percy Bethel Stokes, Norfolk
Dr. Robert Washington Sturgis, Norfolk
Dr. Elbert Berkley Talbot, Richmond
Dr. Achilles Lyons Tynes, Staunton
Dr. Stephen Hurt Watts, Charlottesville
Dr. Reid White, Jr., Lexington
Dr. Hudson Mason Wingfield, Richmond
Dr. Richard Henry Woolling, Pulaski
Dr. Burbridge Scott Yancey, Harrisonburg
Dr. Oscar Raymond Yates, Suffolk

AUDITOR'S REPORT

October 1, 1952—September 30, 1953

OFFICERS AND COUNCILORS
THE MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA
GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1953, and have prepared therefrom the Balance Sheet, Exhibit "A" and Statement of Income and Expenses, Exhibit "B". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct confirmation with the debtors, nor did we verify the accounts payable.

Subject to the exceptions stated in the preceding paragraph, it is our opinion that the accompanying Balance Sheet, Exhibit "A", and Statement of Income and Expenses, Exhibit "B", prepared on the cash receipts and disbursements basis, present fairly the financial condition of the Society at September 30, 1953, and the results of its operations for the year then ended in conformity with generally accepted principles of accounting, applied on a basis consistent with that of the preceding year.

Yours very truly,

MITCHELL, WIGGINS & SMITH
By R. E. WIGGINS
Certified Public Accountant

Financial Condition

The financial condition of the Society at September 30, 1953, is shown in the Balance Sheet, Exhibit "A", on the accrual basis. A summary thereof is presented below in comparison with the financial condition for the two preceding years:

ASSETS

	9-30-53	9-30-52	9-30-51
Cash	$ 56,083.79	$ 47,717.14	$ 40,901.62
Accounts receivable	2,264.12	2,322.48	2,505.47
Investments—United States Bonds	34,351.50	33,341.00	32,373.00
Fixed assets	43,061.10	43,061.10	43,061.10
TOTAL—ALL FUNDS	$135,760.51	$126,441.72	$118,841.19

LIABILITIES, SURPLUS AND FUND BALANCE

Liabilities:			
Accounts payable	$ 1,443.20	$ 1,216.06	$ 1,686.95
Surplus:			
General Fund	91,256.21	82,164.56	74,093.14
Fund Balance:			
Plant Fund	43,061.10	43,061.10	43,061.10
TOTAL—ALL FUNDS	$135,760.51	$126,441.72	$118,841.19

Analyses and explanation of the more important balance sheet items follow:

CASH—$56,083.79

All recorded cash receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1953 were confirmed by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking account	$ 40,769.51
First and Merchants National Bank—Savings account	6,781.44
The Bank of Virginia—Savings account	11.84
The Bank of Virginia—Certificate of deposit	7,500.00
Southern Bank and Trust Company—Savings account	1,021.00
TOTAL	$ 56,083.79

INVESTMENTS—$34,351.50

Investments, consisting of United States Savings Bonds, were verified by inspection of the securities held in the safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the Balance Sheet at their current redemption value. Details of investments are shown in Schedule 1.

FIXED ASSETS—$43,061.10

Details of the fixed assets carried in the Plant Fund are shown in Schedule 2. No indebtedness against these assets was disclosed by the records.

Operations

The income and expenses for the fiscal year ended September 30, 1953 are shown in Exhibit "B", prepared on the cash receipts and disbursements basis. A summary of income and expenses in comparison with that of the two preceding years is presented as follows:

	Fiscal Year Ended		
	9-30-53	9-30-52	9-30-51
INCOME			
Membership dues	$45,754.91	$43,470.10	$43,701.78
Medical monthly publication	17,835.74	18,122.56	17,678.97
Commercial exhibits and convention		2,030.61	4,568.54
Other income	708.98	662.79	816.94
TOTAL	$64,299.63	$64,286.06	$66,766.23
EXPENSES			
Executive office	$53,573.12	$56,348.70	$87,527.82
Public relations department	2,351.06	1,130.64	823.24
TOTAL	$55,924.18	$57,479.34	$88,351.06
INCOME OVER (UNDER) EXPENSES	$ 8,375.45	$ 6,806.72	($21,584.83)

Included in expenditures of the executive office for the fiscal year ended September 30, 1951 is the purchase of office building and equipment totaling $35,367.00. For the years 1953 and 1952, there were no charges for capital expenditures.

In General

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1953 determined from policies on file was as listed below:

FIRE	
Office furniture and fixtures	$ 6,000.00
Building—1105 West Franklin Street, Richmond, Virginia	26,000.00
Walter Reed House, Belroi, Virginia	2,000.00
LIABILITY—OWNER'S, LANDLORD'S, AND TENANT'S	
Bodily injury	$25,000.00 - $50,000.00
Property damage	5,000.00
FIDELITY BONDS	
Executive Secretary-Treasurer	5,000.00
Secretary	5,000.00

Balance Sheet—September 30, 1953
Exhibit "A"
General Fund

ASSETS		
CURRENT ASSETS		
Cash in bank		$56,083.79
Accounts receivable:		
Due from members—Estimated collectible value—1953 Dues—50 @ $25.00	$1,250.00	
Advertising—Virginia Medical Monthly	1,014.12	2,264.12
TOTAL CURRENT ASSETS		$58,347.91
INVESTMENTS		
United States Savings Bonds—Present value (Schedule 1)		34,351.50
		$92,699.41
LIABILITIES AND SURPLUS		
CURRENT LIABILITIES		
Accounts payable:		
Preparation of Medical Journal—September 1953		$ 1,443.20
Surplus:		
Unrestricted—Available for appropriation		91,256.21
		$92,699.41
PLANT FUND		
LAND AND BUILDING—At cost (Schedule 2)		$35,061.10
OFFICE FURNITURE AND EQUIPMENT (Schedule 2)		
At cost	$ 951.65	
Estimated insurable value	7,048.35	8,000.00
		$43,061.10
FUND BALANCE		$43,061.10
		$43,061.10

Statement of Income and Expenses
For the Fiscal Year Ended September 30, 1953
Exhibit "B"

	Actual		Budget
GROSS INCOME			
Membership dues		$45,754.91	
History of Medicine in Virginia		158.92	
Interest on savings accounts		175.61	
American Medical Association		374.45	
Virginia Medical Monthly:			
Advertising	$17,493.37		
Subscriptions—Non-Members	342.37	17,835.74	
TOTAL GROSS INCOME		$64,299.63	
EXPENSES			
Executive office:			
Salaries		$19,820.78	$24,500.00
Telephone and telegrams		1,208.69	1,500.00
Postage		392.75	1,000.00

Stationery and office supplies	558.18	900.00
Office equipment—Repairs and replacements	687.48	750.00
Building maintenance and repairs—Net	2,096.71	3,000.00
Convention expenses	2,170.17	500.00
Council expenses	57.85	425.00
Delegates and executive assistant to A.M.A.	1,219.44	2,200.00
President's expense	538.98	1,000.00
Traveling expense	1,376.64	2,000.00
Preparation and distribution of Medical Journal	16,079.37	18,000.00
Scientific exhibits	2,047.47	2,000.00
Post-Graduate Medical Education Committee	601.60	1,000.00
Legislative Committee	600.00	600.00
Walter Reed Commission	142.95	250.00
Cancer Control	299.25	400.00
Nat. Emergency Medical Service		150.00
Miscellaneous health service committees	233.63	450.00
Woman's auxiliary	5.00	100.00
Membership dues — Affiliated agencies	85.00	85.00
President's contingent fund		500.00
Special appropriations:		
Virginia Council Health and Medical Care	2,000.00	2,000.00
National Society Medical Research	150.00	150.00
Medical service brochure	346.50	400.00
Framing pictures of past presidents	236.00	200.00
Miscellaneous	372.88	500.00
Social security taxes	245.80	375.00
TOTAL EXECUTIVE OFFICE	$53,573.12	$64,935.00
Public Relations Department:		
Conference expenses	$ 445.77	$ 750.00
Radio and press	285.24	400.00
Literature and bulletins	1,235.04	1,000.00
Exhibits	385.01	205.00
TOTAL—PUBLIC RELATIONS DEPARTMENT	$ 2,351.06	$ 2,355.00
TOTAL EXPENSES	$55,924.18	$67,290.00
EXCESS OF INCOME OVER EXPENSES	$ 8,375.45	

Fixed Assets
September 30, 1953
Plant Fund

LAND AND BUILDINGS—At cost		
Walter Reed House, Belroi, Virginia		$ 1,000.00
Office building—1105 West Franklin Street, Richmond, Virginia		34,061.10
TOTAL LAND AND BUILDINGS		$35,061.10
OFFICE FURNITURE AND EQUIPMENT		
Estimated insurable value at October 1, 1950		$ 7,048.35
Purchased during year ended September 30, 1951:		
Adding machine	$100.00	
Addressograph—Multigraph stand	127.50	
Protectograph—Check writer	110.30	
Typewriter	156.20	
File cabinets (2)	71.50	
Vacuum cleaner	69.95	
Desks and chairs (2)	316.20	951.65
TOTAL OFFICE FURNITURE AND EQUIPMENT		$ 8,000.00
TOTAL FIXED ASSETS		$43,061.10

Investment Bonds
September 30, 1953
Schedule 1

TYPE OF BONDS	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-52	VALUE AT 9-30-53
U. S. Savings	F	10	2-1-43	2-1-55	$ 5,000.00	$ 3,700.00	$ 4,570.00	$ 4,725.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	7,539.50	7,769.00
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	443.50	457.00
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,330.50	1,371.00
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	874.00	900.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	861.00	887.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	848.00	874.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,845.00	6,027.00
U. S. Savings	F	1	3-1-46	3-1-58	500.00	370.00	417.50	430.50
U. S. Savings	F	10	3-1-46	3-1-58	10,000.00	7,400.00	8,350.00	8,610.00
U. S. Savings	F	6	10-1-49	10-1-61	3,000.00	2,220.00	2,262.00	2,301.00
TOTALS					$39,000.00	$28,860.00	$33,341.00	$34,351.50

EDITORIAL

Joseph Goldberger (1874-1929) and Pellagra

The Story of the First Epidemiologic Study of a Metabolic Disease

IN THE early part of the present century a new disease appeared in the Southern States. The date is fixed roughly by the depression of 1907. It had been described and named in Italy. Well do I remember my first case of pellagra—a Negro woman with gastrointestinal symptoms, characteristic symmetrical skin eruption, and a very severe vulvitis. She was seen by many consultants and a diagnosis was made of an unusual form of syphilis. The vulvitis was so horrible that the superintendent of nurses begged me to have the patient sent home before she had a nurses' strike. Several years later when the disease had become generally recognized, I took some members of the American Public Health Association on a post-convention trip to see a number of cases in the Central State Hospital for the Insane in Petersburg, Virginia.

Such was my introduction to this new and dreadful malady. Is there any wonder, then, that I should be fascinated by the story of its conquest which, as told by Robert P. Parsons, advances step by step like a good detective story under the guidance of one who had the genius to see the significant signs in logical sequence?



JOSEPH GOLDBERGER, M. D.
Courtesy of The Armed Forces Medical Library

With the suddenness of a plague, pellagra became a serious problem. In 1909 the Governor of Illinois appointed a commission composed of three outstanding physicians to investigate an outbreak in the State Asylum. They reported that there were 500,000 cases in the State of Illinois. Their conclusion was that pellagra was a disease due to infection with a living micro-organism of unknown nature. In 1912, R. M. Thomp-

son and J. H. McFadden financed another commission under the auspices of the New York Post-Graduate Medical School to study the ravages of pellagra in Southern textile-mill villages. This commission also came to the conclusion that pellagra was probably a specific infectious disease and such was the general opinion in 1914 when Joseph Goldberger entered the picture.

He started his investigation at the little hospital of the U. S. Public Health Service for pellagra at Spartanburg, S. C., but extended his inspection throughout the South. The State Asylum at Milledgeville, Georgia, and the Methodist Orphan Asylum at Jackson, Mississippi, were centers of intensive study. He assigned D. G. Willets to collect data at Milledgeville and C. H. Waring in Jackson and he, himself, continued his inspection of institutions in both the South and throughout the North.

The first thing that struck Goldberger as peculiar for an infectious disease was that in none of the institutions in which pellagra existed did any of the personnel contract the disease. Moreover, in the orphanage in Jackson the children under six years and those over twelve escaped the disease. The only discoverable difference in the care of these children was the diet. The young children were fed milk, the older ones had almost no milk and the oldest children a much larger supply of meat. The six-to-twelve agers ate the same food that was commonly used wherever pellagra was prevalent—molasses, biscuit, hominy grits, corn mush, gravy, and sow belly. Similar conditions pertained at the nearby Baptist orphanage. The diet was corrected so that each child was fed milk, eggs, and fresh meat. The pellagra disappeared in a few weeks and did not return the following spring. A properly controlled experiment was instituted at the Milledgeville asylum. Those on the augmented diet recovered and had no recurrences.

Goldberger's next step was the reproduction of the disease. Dr. E. H. Galloway, the Secretary of the Mississippi State Board of Health, who was impressed by the results at the orphanages in Jackson, went with Goldberger to see Earl Brewer, the Governor, and together the three found eleven long-term convicts who were willing to submit to a pellagra-genic diet for six months on the promise of a pardon by the Governor. The work was put in charge of Dr. G. A. Wheeler. The diet consisted of biscuits, fried mush and syrup, grits and brown gravy, coffee with sugar for breakfast; corn bread, cabbage, sweet potatoes, grits, syrup for dinner; fried mush, biscuits, rice, gravy, corn syrup, coffee with sugar for supper. A few weeks before the six months elapsed five of the convicts developed the typical eruption of the disease.

Now that he could both cure and produce the disease, Goldberger delegated Edgar Sydenstricker to survey the diet of the poor throughout the South and to figure out what correlation there was between the distribution of pellagra and what was beginning to be known as a pellagra diet.

But the infectious theory would not down. To combat this he devised a number of experiments. He and Wheeler injected blood from pellagrins into each other's muscles. They swabbed out the secretions from the patients' noses and throats and applied these swabs to their own noses and throats. Scales from the sores and the urine and feces were mixed with dough and swallowed. Lest the acid of the normal stomach be accused of protecting the investigators, they took bicarbonate of soda *beforehand.* These experiments were repeated upon Goldberger and upon Sydenstricker, Wheeler, Willets, W. F. Tanner and Mrs. Goldberger in Spartanburg and by McCoy in Washington.

Now came the question of the most feasible way of eradicating the disease. He advised keeping a cow, a garden, and chickens. In his search for a cheaper way out, he consulted the leaders in nutrition and food chemistry, men like E. V. McCollum,

Alfred Hess, Graham Lusk, Mendel and Osborne at New Haven, and Hunt and Rosenau in Boston. Chittenden and Underhill in 1917 were able to produce black tongue in dogs by feeding them a diet that would produce pellagra in human beings. When Goldberger was convinced that the two diseases were identical he was in a position to make use of animal experimentation. It was also found that rats developed a characteristic skin rash when kept on a similar diet. The investigation was now transferred to the laboratory and progress was more rapid. By 1920 it was determined that the disease was due to the lack of amino acids or of mineral supply in the diet, or some unknown vitamin factor, or some combination of these. By 1922 the pellagra prevention (P-P) factor was narrowed down to amino acid of some kind. The next year it was definitely proved that brewer's yeast contains the P-P factor. Further tests narrowed the search still further, but Goldberger did not live long enough to pinpoint the identity of his P-P. Like Moses, he was taken away when he was in sight of the Promised Land. Years later vitamin P-P was named vitamin G in his honor.

Goldberger was a man of many paradoxes and from whatever angle he is viewed he is extremely interesting. He was born on a tenant farm in Giralt, Hungary (now Czechoslovakia). When he was seven years old, his parents and their eight children immigrated to New York. They grew up on the sidewalks and among the push carts of the eastside. Joseph was always reading a book. Even when delivering groceries for his mother's store he carried a book with him. In due time he began a course in civil engineering in the City College and at the end of his second year he stood fifth in his class of 600. When by chance he heard Austin Flint, Jr. give the Harvey Lecture at the Bellevue Hospital Medical College, he decided on medicine as his life work. He graduated at Bellevue second in his class; as an interne in the hospital he was noted for his history taking. He began practicing at Wilkes Barre, Pennsylvania, but was not happy in private practice and at the beginning of the Spanish War he tried to enter the Navy, but his application was ignored. Instead he entered the Public Health Service and was stationed at Reedy Island in the Delaware River. At his first quarantine station he served under Farrar Richardson who was to play such an important role in his life by introducing him to his future wife. He was also inspired by Henry Carter and he asked Surgeon General Wyman for an assignment in Tampico so that he could study yellow fever.

Goldberger had an uncanny way of choosing the right approach to a problem. To mention all of his early successes would be beyond the scope of this editorial. He was the first to succeed in inoculating a monkey with measles. In 1909 he was called to Philadelphia to study an outbreak of dermatitis among the Navy personnel. For eight years it had pestered the sailors each spring in spite of the local dermatologists. Within forty-eight hours he had not only solved the mystery but he demonstrated the cause, Pediculoides ventricosus.

His courtship and marriage are revealing. Mary Farrar was the daughter of a well known attorney, prominent in New Orleans society, who looked with disapproval on having as a prospective son-in-law a Jew whose parents spoke little English. True to form the lawyer sent out a dragnet for information upon which to base his opposition. The information, however, without exception, was enthusiastically favorable. Goldberger on his part had much trouble in gaining his parents' sanction. The outcome was in accord with the Goldberger tradition—all parties became whole-heartedly cooperative.

Note: This editorial was written by Dr. Rucker just before he went to the hospital in his final illness.

SOCIETIES

Princess Anne County Medical Society.

Dr. Ira L. Hancock, Creeds, president, has appointed the following as chairmen of the various committees of the society for the coming year: Dr. H. W. Swertfeger for Public Relations; Dr. James W. Todd for Grievance and also Program; Dr. Cora Z. Corpening, Ethics; Dr. H. F. Dormire, Membership.

The Mid-Tidewater Medical Society

Met at Tappahannock, October 27, with the president, Dr. Wm. H. Hosfield of West Point, presiding. At the scientific session, papers were read by guests, Dr. Carrington Williams of Richmond on Diverticulitis of the Colon, and by Dr. Samuel W. Budd, Jr., also of Richmond, on Brucellosis and Typhoid Fever. Mr. Robert I. Howard, secretary of The Medical Society of Virginia, gave a report on the meeting recently held in Roanoke.

Dr. H. L. Shinn of Hallieford will succeed to the presidency the first of the coming year and those to serve with him are Dr. Thomas E. Smith, Hayes Store, as president-elect, Dr. M. H. Harris, West Point, as secretary, and Dr. Wm. H. Hosfield as treasurer. The vice-presidents and councilors are: Drs. Joseph W. Chinn, Tappahannock; Dr. Carl Broaddus of King and Queen County; Dr. A. W. Lewis, Jr., Aylett; Dr. J. R. Parker, Providence Forge; Dr. B. H. Bailey, Yorktown; Dr. Raymond Brown, Gloucester; Dr. A. L. Van Name, Urbanna; and Dr. R. B. Bowles, Mathews. The next meeting will be in January 1954 at West Point.

Patrick-Henry Medical Society.

At a meeting on October 2nd, the following officers were elected for the year 1954: President, Dr. W. C. Akers, Stuart; vice-president, Dr. H. M. Price, Martinsville; and Dr. T. H. Dickerson of Martinsville was re-elected secretary-treasurer. At the scientific session, Dr. A. M. Groseclose of Roanoke, invited guest, discussed "Bleeding in the Third Semester".

Warwick-Newport News Medical Society.

At the meeting of this Society on October 13, following a social hour and dinner, Dr. Walter Freeman, professor of Neurology at Georgetown University School of Medicine, Washington, was the guest speaker, his subject was "Recent Aspects of Lobotomy in the Treatment of Psychiatric Diseases".

The November meeting was at the Medical Clinic Building of the Newport News Shipyard on the 10th. A program was given by the Shipyard Clinic, and dealt primarily with the problems of medicine in industry. Refreshments were served after the meeting.

Dr. O. Watts Booth and Dr. W. Ward Anderson, Jr., both of Newport News, are president and secretary, respectively, of this Society.

The Lynchburg Academy of Medicine

Held a dinner meeting on October 12th at the Virginian Hotel. Dr. David G. Welton spoke on "Constructive Criticism of the Medical Profession". Seven doctors were elected to full membership, having met the necessary requirements.

Richmond Academy of Medicine.

At the November 11 meeting of the Academy, Dr. Virgil May read a paper on "Low Back Pain with Sciatica", and Dr. E. W. Perkins spoke on "The Indications and Technique for Intermarginal Eyelid Adhesions". The latter was accompanied with color films.

Roanoke Academy of Medicine.

The first meeting under the presidency of Dr. C. D. Nofsinger was held at the Public Health Center on November 2nd. Dr. Charles Young, Jr., spoke on "Exophthalmus" with the discussion led by Dr. J. Lawson Cabaniss. Dr. Alfred L. Wolfe gave a case report on "Idiopathic Hypertrophy of the Heart". Dr. G. B. Lawson led the discussion on this paper. Dr. Charles B. Bray, Jr., is this year's secretary-treasurer.

The Virginia Peninsula Academy of Medicine

Held its regular meeting on October 28 at the James River Country Club, under the presidency of Dr. C. D. Bradley of Newport News. Following a social hour and dinner, Dr. J. Edwin Wood, Jr., of the University of Virginia gave a most interesting talk on "The Management of Congestive Heart Failure". Dr. W. T. Watkins, Jr., of Newport News, is secretary.

NEWS

The Medical Society of Virginia

Held a banner meeting in Roanoke, October 18, 19, 20 and 21, under the presidency of Dr. James L. Hamner of Mannboro. The registered attendance was 983, which included 697 physicians, 176 ladies, and 110 exhibitors. Alumni and special society luncheons and dinners added much to the interest of the meeting. The guest speakers were Dr. Robert L. King of Seattle, Wash., who spoke on Rheumatic Fever and Heart Disease; Dr. Charles H. Mauzy of Winston-Salem, N. C., whose subject was Obstetrical Complications—The Management Now and Twenty Years Ago; Dr. Charles S. Wise of Washington, D. C., who took part in the Rehabilitation Symposium; and Dr. Claude Forkner of New York City who spoke on the Treatment of Lymphomas in a symposium on that subject.

At the Monday evening session, Dr. Hamner delivered his presidential address, presented Dr. Thomas H. Hunter, the new Dean of the School of Medicine at the University of Virginia, and our own Dr. Walter B. Martin of Norfolk, president-elect of the American Medical Association. Dr. H. Sherman Oberly, President of Roanoke College, was the closing speaker. At this session, also, certificates were awarded the new members of the Fifty Year Club, and a Memorial was held for members who had died during the tear. (List in minutes.)

The exhibits, technical and scientific, attracted much attention. In the scientific exhibits, prizes were awarded for outstanding work to Drs. E. N. Weaver, Wm. P. Tice, Charles H. Peterson, Allen Barker, Charles D. Smith and John A. Martin of Roanoke, for their exhibit entitled Diagnosis and Treatment of Some Intracranial Lesions; the second award went to Dr. George Cooper, Jr., Dr. McLemore Birdsong and Dr. Randolph Bradshaw of Charlottesville for the exhibit Emergencies in the Newborn; the third award was for the exhibit on Diagnosis and Surgical Implications of Segmental Thrombosis in the Lower Extremities by Drs. Eugene L. Lowenberg, Philip B. Parsons and Joe Lee Frank, Jr., of Norfolk.

Many physicians participated in the golf tournament on Monday afternoon, and the low net of 71 was tied by Dr. John A. Cocke, Norfolk, and Dr. Thomas G. Hardy, Farmville, for first prizes. Several runners-up also received prizes.

A cocktail party, banquet and entertainment were on Tuesday evening, at which time Dr. Vincent W. Archer of Charlottesville was installed as president. In the last meeting of the House of Delegates, Dr. Carrington Williams of Richmond was named president-elect and Dr. J. M. Hutcheson of Richmond was selected as the new delegate to the American Medical Association. The vice-presidents named at this time are Dr. David S. Garner of Roanoke, Dr. Frank E. Tappan of Berryville, and Dr. A. Tyree Finch of Farmville. Robert I. Howard was re-elected secretary-treasurer. The councilors from the odd numbered districts being re-elected there were no changes in this body. As previously decided by the Council, plans have been made for the 1954 meeting to be held in Washington, D. C., as a joint one with the Medical Society of the District of Columbia from October 31-November 3 inclusive.

Special Societies

Held luncheon or dinner meetings at time of the annual meeting of The Medical Society of Virginia in Roanoke, and are reported as follows:

Virginia Urological Society

Officers elected at this luncheon are Dr. T. B. Washington, Richmond, president; Dr. Charles J. Devine, Norfolk; and Dr. Wm. R. Jones, Jr., Richmond, re-elected. The 1954 meeting will be held in conjunction with Washington urologists since the society will be held in Washington, and the program committee for this occasion will be composed of Drs. Washington, A. I. Dodson, Sr., and Dr. Jones.

Virginia Society of Obstetricians and Gynecologists

Dr. Chester L. Riley of Winchester was installed as president, Dr. E. S. Groseclose of Lynchburg was named president-elect, and Dr. Chester D. Bradley of Newport News was re-elected secretary-treasurer. New members admitted are Drs. A. T. Finch, Farmville; Lee Earnhardt, Jr., Fredericksburg; T. H. Haas, Radford; Stanley E. Smith, Jr., Norfolk; and Arthur L. Wilson, Winchester.

Virginia Diabetic Association

Mr. A. Ross Pond, Field Representative of the American Diabetic Association, was present and gave an interesting talk. The Association voted unanimously to accept the invitation of the Virginia

Academy of General Practice to participate in their meeting in May 1954 and made plans to stimulate more general interest throughout the State in diabetic detection. Officers elected are President, Dr. Robert L. Bailey, Jr., Richmond; vice-presidents, Dr. Thomas S. Edwards, Charlottesville and Dr. William A. Read, Newport News; and secretary-treasurer, Dr. J. F..Conner, Kecoughtan.

VIRGINIA ORTHOPEDIC SOCIETY

Dr. Bernard Packer of Richmond was elected president of this Society at their luncheon meeting in Roanoke, Dr. Allen Ferry of Arlington vice-president, and Dr. William Deyerle of Richmond was named secretary.

VIRGINIA SURGICAL SOCIETY

There was no business transacted at the meeting of this Society in Roanoke, it being purely social. The annual business and scientific session will be at Hot Springs, Va., on January 16, 1954. Dr. Randolph Hoge of Richmond and Dr. R. L. Payne, Jr., of Norfolk are president and secretary, respectively.

VIRGINIA SECTION, AMERICAN COLLEGE OF PHYSICIANS

Dr. J. Powell Williams of Richmond is chairman of the Section at this time, and Dr. James F. Waddill of Norfolk secretary. The Section will hold its scientific meeting in Richmond on February 25, 1954.

VIRGINIA RADIOLOGICAL SOCIETY

Officers of this Society elected at their luncheon meeting in Roanoke are president, Dr. L. O. Snead of Richmond; vice-president, Dr. Allen Barker of Roanoke; and secretary-treasurer, Dr. P. B. Parsons of Norfolk. The interim Scientific Session of the Society will be in April 1954 in Richmond, the exact date and program to be announced later.

The Southern Medical Association,

With its number of sectional and special society meetings, was largely attended at the convention in Atlanta, Georgia, October 26-29, under the presidency of Dr. Walter C. Jones of Miami, Florida. At this meeting, Dr. Alphonse McMahon of St. Louis succeeded to this office, and Dr. Robert L. Sanders, Memphis, Tenn. was named president-elect to take office in 1954. Dr. W. R. McKenzie, Baltimore, and Dr. Marion Pruitt of Atlanta were elected vice-presidents, and new members of the council are Dr. Olin Cofer of Atlanta, Dr. Milford Rouse of Dallas, Texas, and Dr. J. Morris Reese of Baltimore. The 1954 convention will be in St. Louis.

American College of Surgeons.

At the meeting of the College in Chicago, in October, the following Virginia physicians were admitted to fellowship:

Dr. Henry L. Bastien, Arlington
Dr. R. D. Butterworth, Richmond
Dr. Earnest B. Carpenter, Richmond
Dr. Beverley B. Clary, Richmond
Dr. Custis L. Coleman, Richmond
Dr. William E. Daner, Richmond
Dr. Henry P. Deyerle, Harrisonburg
Dr. John E. George, Roanoke
Dr. William C. Humphries, Woodstock
Dr. John J. Keenoy, Portsmouth
Dr. Peter N. Pastore, Richmond
Dr. George N. Thrift, Richmond
Dr. John A. Vann, Norfolk
Dr. Henry A. Wiseman, III, Danville

The next Clinical Congress of the College will be held November 15-19, 1954, at Atlantic City, New Jersey.

A Sectional meeting will be held in Charlotte, North Carolina, February 1-3, 1954, with headquarters at the Hotel Charlotte. The states participating in this meeting are: Alabama, Delaware, District of Columbia, Florida, Georgia, Maryland, Mississippi, North Carolina, Pennsylvania, South Carolina, Tennessee and Virginia.

The Virginia Medical Service Association,

At a meeting of its board of directors held recently, elected Dr. H. Grant Preston of Harrisonburg its president. Dr. Russell M. Cox, Portsmouth, was elected vice-president; and Dr. Benjamin W. Rawles, Jr., Richmond, secretary-treasurer. Dr. Herbert D. Wolff, Jr., of Alexandria, was named chairman of the board of directors. Dr. Richard J. Ackart of Richmond is executive director of the group.

Dr. Gardner Chairman of Richmond Board of Health.

Dr. Emily Gardner, prominent pediatrician of Richmond, has been elected chairman of the City Board of Health, to succeed Dr. M. Pierce Rucker, who submitted his resignation because of ill health. His term would not have expired until September 1956.

Dr. H. J. Warthen,

Richmond, attended the meeting of the Surgeons Club at Johns Hopkins University, Baltimore, October 18-21, and gave a paper on Surgical Treatment of the Extremities in Diabetes. He also held a surgical clinic.

American Heart Association.

The 1954 annual meeting of the Association will be held at the Conrad Hilton Hotel in Chicago. The Assembly Panels and the General Assembly will be held on Thursday and Friday, April 1 and 2, and will be followed by a specific scientific program on clinical cardiology on Saturday and Sunday, April 3 and 4, conducted under the auspices of the newly formed Section on Clinical Cardiology of the Scientific Council. These sessions will immediately precede the annual meeting of the American College of Physicians.

Dr. A. S. Hurt, Jr.,

Formerly of Richmond, announces that he is now living at Maidens in Goochland County. His former office space at 1004 West Franklin Street, Richmond, is unoccupied and available for sub-leasing.

Seminar in Ophthalmology and Otolaryngology.

The eighth annual University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology will be held at the Sans Souci Hotel in Miami Beach the week of January 18, 1954. The lectures on Ophthalmology will be presented on January 18, 19 and 20, and those on Otolaryngology on January 21, 22 and 23. A midweek feature will be the Midwinter Convention of the Florida Society of Ophthalmology and Otolaryngology on Wednesday afternoon, January 20, to which all registrants are invited. The registrants and their wives may also attend the informal banquet at 8 p.m. on Wednesday. The Seminar schedule permits ample time for recreation.

The Seminar lecturers on Ophthalmology this year are Dr. W. B. Anderson, Durham, N. C.; Dr. W. P. Beetham, Boston; Dr. W. C. Owens, Baltimore; Dr. A. B. Reese and Dr. M. C. Wheeler, both of New York City. Those lecturing on Otolaryngology are Dr. E. N. Broyles, Baltimore; Dr. H. P. House, Los Angeles; Dr. W. J. McNally, Montreal, Canada; Dr. Dorothy Wolff and Dr. D. Woodman, New York City.

Tumor Clinic Approved.

Dr. George Cooper, Jr., chairman of the Cancer Committee of The Medical Society of Virginia, announces that a new Tumor Clinic at Norton was approved in October. It is known as the Norton Diagnostic Tumor Clinic and the Director is Dr. C. H. Henderson.

Dr. John M. Ratliff,

Formerly of Norfolk, has completed his training in radiology and has joined Dr. Q. J. Legg of Newport News in the practice of radiology.

On Staff of John Randolph Hospital.

Dr. Clyde Dougherty has been elected chief of the staff of the newly organized hospital and Dr. W. T. Youngblood will serve as secretary.

The American Foundation for Allergic Diseases

Has been organized in New York State by the American Academy of Allergy and the American College of Allergists. Dr. Horace S. Baldwin of New York was named president of the Foundation and Dr. J. Warrick Thomas of Richmond, Va., was named vice-president. Dr. Thomas is allergist at Johnston-Willis and Retreat for the Sick Hospitals and is assistant professor of allergy at the Medical College of Virginia. Dr. Oscar Swineford, Jr., at the University of Virginia, is one of the trustees of the Foundation.

Dr. James Nicholas Dudley,

Formerly Health Commissioner of Roanoke, Virginia, resigned recently to accept a position with the Lovelace Clinic in Albuquerque, New Mexico.

American Academy of General Practice.

The sixth annual Scientific Assembly of the Academy will be held March 22-25, 1954 in Public Auditorium, Cleveland, Ohio. The entire program will be presented by leaders in the fields to be covered and will be of special interest to family doctors.

The Committee on Scientific Assembly, headed by Dr. John Mosher of Coeymans, N. Y., promises that these four days will unquestionably be the most pleasant, as well as the most instructive, doctors have ever spent at a medical meeting.

The program shows symposia on peptic ulcer, tuberculosis, headache and dizziness, and antibiotics, a live clinic on rehabilitation procedures, presentations on the commonly missed diagnoses of skin

diseases, the almost forgotten woman—the routine multipara, and unnecessary gynecologic surgery. Arthritis, anemia, surgical problems and recent advances in therapeutics will also be covered. There will also be over 60 scientific exhibits.

A full social program is being planned for the wives culminating with a President's Reception, the first the Academy has had, for the entire attendance.

Dr. Rudolph C. Thomason,

Richmond, has been elected president of the Hermitage Country Club of this city.

Dr. E. C. Stuart, Sr.,

Of Winchester, observed his eighty-eighth birthday anniversary the first of November. He has been practicing for sixty-six years.

Wanted

Physician for the Staff of the DeJarnette State Sanatorium, Staunton, Virginia. This is a psychiatric hospital of approximately 180-bed capacity. Starting salary $8,400.00 to $8,784.00. Apply to the Superintendent. (*Adv.*)

Office Space Available.

Excellent opportunity for physician in expanding community of Alexandria, Virginia, just outside of Washington. Complete 5-room house available for use as office in area needing services of a physician. Owners willing to assist Doctor to get started. Telephone Mr. Charles Gerstein for appointment—TE-6-9378—or write him at 13 East Myrtle Avenue, Alexandria, Virginia. (*Adv.*)

For Sale

Office and practice in Richmond, Virginia. Leaving a well established general practice for specialized training and would like to sell equipment and outstanding accounts. Address "Practice", care the Virginia Medical Monthly, Box 5085, Richmond 20. (*Adv.*)

OBITUARIES

Dr. Marvin Pierce Rucker,

Richmond, Editor of the VIRGINIA MEDICAL MONTHLY for the past eleven years, died October 23rd after a lingering illness. In spite of failing health, he had continued his work on the MONTHLY to the time of his final illness.

Dr. Rucker, a native of Fairfax, was the son of the late Dr. Edwin Timothy Rucker and Annie Pierce Pendleton Rucker and was seventy-two years of age. After studying at the Medical College of Virginia and Harvard University, he received his medical degree from Johns Hopkins University in 1903. After postgraduate study at the University of Leipzig, Germany, he became a general practitioner in Richmond in partnership with his father. He limited his practice to obstetrics and gynecology in 1915 and received international recognition in these fields.

For twenty-seven years, Dr. Rucker taught at the Medical College of Virginia. He was also a special lecturer on the history of obstetrics at Duke University. He conducted extensive research and study relating to his specialties and wrote for medical publications in this and foreign countries. He had also written numerous articles on historical subjects.

Dr. Rucker was identified with many medical organizations and in most of them he held the highest office. He was a past president of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons. He served as president of the Richmond Academy of Medicine and The Medical Society of Virginia. Locally he became a member of the Richmond Board of Health in 1946 and had served as its chairman from 1950 until his resignation a couple of months ago. He was a former chairman of the Board of Stewards of his Church, a director of the central YMCA, a trustee of Randolph Macon College at Ashland, a director of Johnston-Willis Hospital, and had been awarded a Doctor of Laws degree from Randolph Macon College in recognition of his achievements in the medical profession. He was a member of Phi Beta Kappa and Phi Beta Kappa Associates.

His wife, Josephine McRae Rucker, two sons, Drs. Edwin and Douglas Rucker, a daughter, Mrs. Lewis Powell, Jr., and several grandchildren, survive him.

"To live in lives we leave behind is not to die."

Dr. Robert Sheffey Preston,

Well known Richmond physician, died unexpectedly at his home on October 28. He was at his office the previous day and apparently in good health. Death followed a heart attack in the early morning. He was a native of Abingdon and sixty-eight years of age. His medical education was received at Johns Hopkins University, Baltimore, from which he graduated in 1908, later interning in New York and taking post-graduate work in Germany. He then located in Richmond where he had since practiced except for time he served in World War I. He was

for some time on the faculty of the Medical College of Virginia and at time of his death was on staff of Johnston-Willis Hospital. He was identified with a number of medical societies, having been in The Medical Society of Virginia since 1908, and was also active in church and social life. His wife, and three children survive him.

Dr. Charles R. Anderson,

Mayor of Winchester from 1932 to 1946, died at his home there on October 24, after a long illness. He was seventy-six years of age and a graduate of the University of Maryland in 1898. He served in the Army Medical Corps during World War I. For forty-four years he practiced medicine in Winchester and Frederick County and for twenty-five years was a member of the Common Council and interested in political conditions in that section. He had been a member of The Medical Society of Virginia for many years and became a Life member in 1948.

Dr. Ashley P. Cutchin

Who, until he became ill a month ago, was the oldest practicing physician in Southampton County, died at his home in Franklin on November 7. He was seventy-nine years of age and a graduate of the Medical College of Virginia in 1897. Shortly thereafter he located in Franklin where he had since made his home. He joined The Medical Society of Virginia in 1910 and was made a Life member in 1948 in recognition of fifty years of service in the practice of medicine. His wife and three children survive him.

Dr. Oliver F. Blankingship,

Retired physician formerly of Richmond, died in Gordonsville, October 18. He was eighty-eight years of age and had graduated in medicine from the Medical College of Virginia in 1891. He had been a member of The Medical Society of Virginia for fifty-four years. His wife died some years ago, and he is survived by two nieces and two nephews.

Dr. Alexander Y. P. Garnett,

For more than forty years prominent obstetrician in Washington, D. C., died November 4, at the age of 72. He graduated in medicine from the University of Virginia in 1906 and had been a member of The Medical Society of Virginia since 1913. He was considered one of the first specialists in his field in Washington and was a member of numerous medical organizations. He is survived by his wife, two sons and two sisters.

Dr. James Henderson Smith.

The medical profession in Virginia and those of us in The Richmond Academy of Medicine learned with sorrow of the death of Dr. James Henderson Smith on the night of June 4th, 1953.

Dr. Smith was born in Leesburg, Virginia, on September 18th, 1882. He later moved to Lexington and Fredericksburg, Va. His early education was acquired in the local schools and at The Fredericksburg College. He then came to The University College of Medicine, graduating in the class of 1910. He obtained his post graduate training at St. Luke's Hospital in Richmond, and was closely associated with that institution the rest of his life. At the time of his death he was the senior member of its staff.

During the first World War Dr. Smith served as Captain in the Medical Service of Base Hospital No. 45. He was a former president of the Academy and was active in the work of The Medical Society of Virginia, the American Clinical and Climatological Association, and other organizations. He was a member of the Dean's Committee, and was Professor of Clinical Medicine at the Medical College of Virginia.

He was interested in the influence of climate and solar rays on metabolism and did considerable research in relating this to the incidence of pellagra, goitre and other conditions. At the time of his death he was working in this connection with poliomyelitis. In November 1931 The Archives of Internal Medicine was published in two volumes, the second devoted entirely to one of Dr. Smith's papers on solar radiation and pellagra.

His health had not been good during the past few years but he was in his office each day and seemed as well as usual on the morning of June 4th. About noon he developed symptoms of coronary thrombosis and he died that night.

Dr. Smith was always a student of medicine. He had an inquiring mind and this, coupled with his experience from a large practice, and his ability to see a situation clearly, made him one of the outstanding consultants in this section. We shall miss him greatly but he will continue to live in the hearts of his friends and his patients, to whom he will be irreplaceable.

To his family we wish to express our sincere sympathy in their great loss.

Webster P. Barnes
John P. Lynch
Hunter H. McGuire

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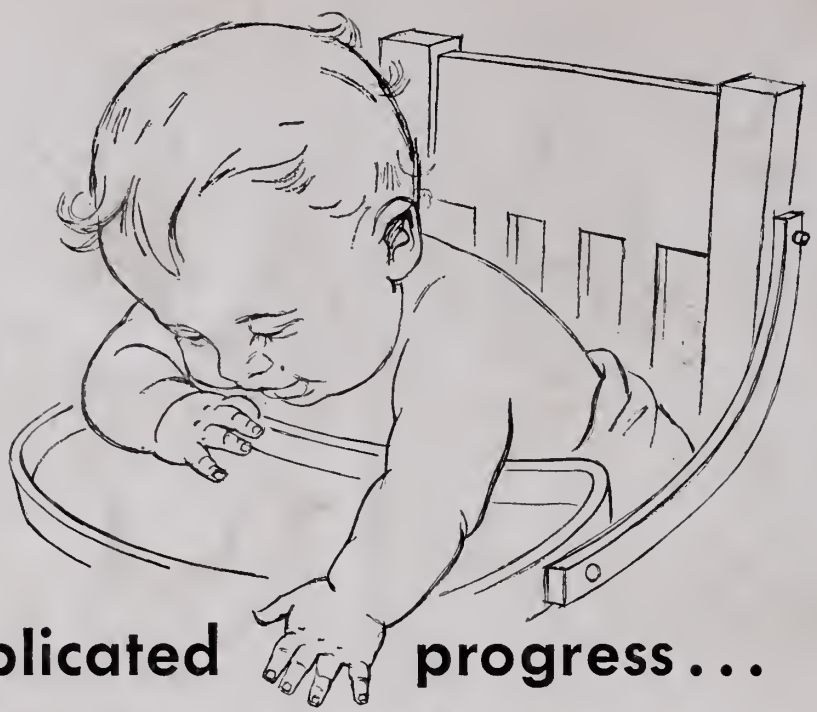
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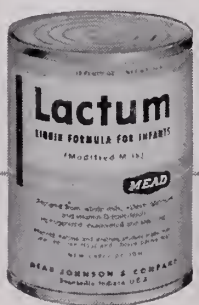
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